The RUBBER AGE

The Only Twice - a - Month Rubber Publication

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FIRESTONE ANNOUNCEMENT OF TIRE PRICE ADVANCE FOLLOWED BY OTHERS

U. S. Rubber, Goodyear, Goodrich, Lee, Fisk, General and Others Make Similar Announcements—Increase Varies from 5 to 10 Per Cent—Fabric Tires Not Affected

NEW YORK, May 4, 1924—Despite reports tending to the contrary belief, the long-expected tire price increase has at last been put into effect. The Firestone Tire & Rubber Co. started the movement on May 1 and at this writing practically all the well-known tire manufacturers have followed suit.

The new Firestone list does not include an advance on fabric casings, 3½ inch cords or balloons but increases prices on regular cord tires 5 per cent and 10 per cent on tubes, solids and truck and bus pneumatics.

The new lists of other manufacturers were not available but all reported that the increase would be met, thus bringing the prices of all the leaders to approximately the same level.

Those manufacturers who have already announced increases and the dates they went into effect are:

Firestone Tire & Rubber Co.	May 1
B. F. Goodrich Rubber Co.	May 1
Goodyear Tire & Rubber Co.	May 4
Kelly-Springfield Tire Co.	May 4
Lee Tire & Rubber Co.	May 4
Fisk Rubber Co.	May 4
General Tire & Rubber Co.	May 1
Hood Rubber Co.	May 1
Miller Rubber Co.	May 1
U. S. Rubber Co.	May 4

In addition Seiberling, India, Mohawk, Star and American-Akron report that they are working on new price lists to meet other prices. Other manufacturers in Trenton and New England are expected to fall in line within the next week.

There was a great deal of dissatisfaction expressed in some quarters regarding the percentage of increase for it was felt that nothing short of 20 or 25 per cent would allow sufficient profits at the present price of crude rubber. It will not be a surprise therefore if prices are again raised within the next 30 or 60 days, a condition which will cause much confusion and comment among the tire consuming public. It is felt that it would have been far better for the tire industry if a larger increase had been made in the beginning.

H. S. Firestone in a statement placed

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GENERAL ANNOUNCES A SIX-PLY BALLOON TIRE

Offering is being made by the General Tire & Rubber Co., of a six-ply balloon tire, in addition to its four-ply balloon tire which is furnished for lighter cars. The company notes that a swing has started from four- to six-ply tires, the demand coming from owners of cars of the heavier types.

The new six-ply balloon reduces puncture risk to a minimum, it is declared, and its greater thickness results in longer life even under neglected air pressure. It requires no more power than the average four-ply balloon tire, it is declared. The company is making a special drive for exclusive dealer representation, as is being done by all the established makers.

Pennsylvania Prosperous

The payroll of the Jeannette factory of the Pennsylvania Rubber Co. is now approximately $130,000 or about 25 per cent more at this writing than it was two weeks previously. The plant is turning out 16,000 tennis balls, 3,800 tires and 5,000 tubes a day. According to George W. Daum, general manager, plans are under way for installing new equipment to raise production to 5,000 tires and 8,000 tubes a day. This would mean an expenditure of about $150,000. The company has adequate building space to accommodate the new equipment.

Lion Rubber Formed

The Lion Rubber Co., Ravenna, Ohio, was recently incorporated by Willion DeLeone, Albert DeLeone, Harold W. Stevens, T. H. Stevens and Joseph E. Scher. Authorized capital is $25,000. The company will manufacture rubber nipples, gloves and other rubber sundries.

Bailey Rubber Bankrupt

The Bailey Rubber Heel Co., Beverly, Mass., recently filed a voluntary petition in bankruptcy in Federal District Court at Boston. Liabilities are listed as $127,821 and assets at $18,250. The chief unsecured creditor is C. H. V. Bell of Salem who has a claim of $40,000.

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FIRESTONE INCREASE FOLLOWED BY OTHERS

(Continued from Page 75)

the blame for the necessity of increasing prices on the Stevenson plan of restriction. Crude rubber reached a low of 17 cents in May, 1924, from which time there has been a steady increase up to the present high of about 46 cents. This rise has followed closely the decrease in imports as a result of the reduction of exportable allowance from British plantations, even though Dutch output has materially increased in the past year. According to the Firestone statement the "Dutch colonies in the East became very active in production since the restriction laws were enacted and in 1924 exported nearly 44 per cent of the world's supply. Indications are that this year the Dutch colonies will export more than 50 per cent of the world's supply."

The Firestone statement continues:

"The average price of four popular sizes of cord tires today is about $22.00, about 25 per cent under the price on Aug. 1, 1922, despite the 200 per cent advance in the price of rubber."

Mr. Firestone bases his calculations on the following prices of tires, along with the cost of crude rubber:

	30x3½ Cord Tire	32x4 Cord Tire	33x4½ Cord Tire	33x5 Cord Tire	Average Price	Rubber Price
Aug. 1, 1922	$11.60	$27.10	$36.00	$43.75	$29.60	.15
May 1, 1923	14.00	31.25	41.50	50.50	34.30	.37
May 1, 1925	9.30	19.35	26.25	34.00	22.25	.45

"Naturally the question arises as to why tire prices are not even higher, in view of the marked advance in crude rubber costs. Our progressive manufacturing methods, our reduced distribution costs and our steadily increasing volume of tire sales, especially the 3½ inch size and the balloons, all have been factors in enabling us to give tire buyers the greatest values they have ever received for their money," said Mr. Firestone.

"There is a gratifying situation, too, in the rubber growing movement. While prior to restriction the British colonies had controlled 85 per cent of the world's supply, the Dutch colonies in the Far East became very active in production since the restriction laws were enacted, and in 1924 exported nearly 44 per cent of the world's supply. Indications are that this year the Dutch colonies will export more than 50 per cent. Production in other countries, in which Americans will be instrumental in stimulating, also is rapidly increasing. All of this is sure to have a wholesome effect.

"Our own operations in Liberia, on the west coast of Africa, are giving us a great deal of encouragement, and we hope the time is near when activities in that rubber growing country will be on an extensive scale."

Speaks on Advertising

"Advertising must be linked intelligently with selling to achieve efficient results," President G. M. Stadelman, of the Goodyear Tire & Rubber Co., declared in a talk to employees, during the recent celebration of Goodyear Hall. "Goodyear's cost of selling and distributing tires and other products is the lowest of any company in the rubber business." he asserted "because of quantity production, stimulated by the right kind of advertising.

"No company should advertise unless the cost of the product is thereby reduced in the final analysis." Mr. Stadelman, declared that advertising is one of the most important factors in building up any business. Citing instances of firms, which had stopped advertising on the theory that their reputation and products were sufficiently well known to the public, to insure sale without further effort on their part, he pointed out that in each case the business of these concerns has declined in proportion as their advertising was decreased.

Hire 300 Workers

In order to get out a large consignment of shoes to be delivered within a stated time, the National India Rubber Co., Bristol, R. I., has put on an additional force of practically 300 workers. These employees will be divided into two shifts, working day and night until some time in June, when the order will be completed. The addition of the extra workers will increase the force of employees to 2400. The increase affects only the shoe division of the Bristol plant.

Goodyear Textile Profits

The annual report of the Goodyear Textile Mills, Goodyear, Conn., a subsidiary of the Goodyear Tire & Rubber Co., Akron, shows profits of $255,893 after all charges and taxes in 1924. Earnings were equivalent to $11.80 on the preferred stock, compared with $11.86 in 1923.

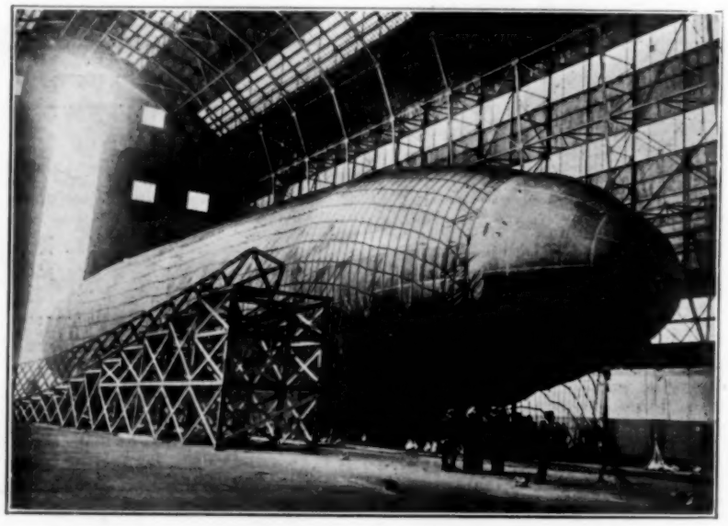
ROESSLER & HASSLACHER IN $6,000,000 MERGER

Merger of the Roessler & Hasslacher Chemical Co., 709 Sixth Ave., New York, with the Niagara Electro Chemical Co. in a new company to be called the Roessler & Hasslacher Chemical Co., Inc., was announced by Roessler & Hasslacher recently. The new company, which has been incorporated, is capitalized at $6,000,000. No change in the policy of the Roessler & Hasslacher Chemical Co. is involved in the consolidation. The incorporators of the new company are Franz Roessler, W. A. Hamann and H. R. Carven.

Two New Plants Start

Barberton, Ohio, expects to see two new plants operating full blast early this month. The Domestic Rubber Co. is already employing a force of 15 men in its factory on Wolf street making bathing caps, water bottles, ice bags and other rubber sundries. This plant, which was formerly owned by the Vultex Rubber Co. is operated by former Rubber Products employees. C. C. Schutz is president and general manager; E. J. Schutz is vice president and factory manager; J. M. Wylie, secretary-treasurer and office manager; and J. B. Chisnell is sales manager.

May 15 has been set as the date of starting production at the big plant of the Akron Rubber Reclaiming Co. where nearly 30 men are now employed. B. O. Etling is president and treasurer; William Welsh is vice president and sales manager; W. A. Hart, a former Goodyear man is secretary; and C. E. Bishop is vice president and factory manager. These men serve as directors with the following well known rubber officials: J. M. Alderfer, William O'Neil, C. W. Seiberling, R. M. Pillmore, J. A. Christy and C. O. North.



Largest Semi-Rigid Dirigible Being Built by the Goodyear-Zeppelin Co., Akron, at Scott Field

NO CHANGE PLANNED IN EXECUTIVE PERSONNEL OF HEWITT RUBBER CO.

W. J. Magee, J. M. Cranz, E. K. Twombly, J. F. Palmer, O. E. Kruger, E. J. Clare, Charles Ellis and J. B. Bennett, all of Whom Have Been with Hewitt Several Years, to Remain

Following the announcement during the week of the sale of the control of the Hewitt Rubber Co. to J. H. Kelly and F. V. Springer, who have been operating heads of the concern since 1917, Mr. Kelly stated that there would be practically no changes in the executive personnel on account of the new ownership.

"The present organization of the Hewitt company," Mr. Kelly stated, "is composed of men of long and practical experience in the rubber business and has been built up carefully over a period of years to cope with the specific situation in this plant. Most of the executives, department heads and foremen have now been with Hewitt several years and their ability and enthusiasm will do much toward enabling us to put into execution the plans for expansion of the business that were decided upon some time before the sale was actually consumated."

W. J. Magee is secretary and treasurer of the Hewitt company, acting as comptroller. He has been nearly five years with the Hewitt organization.

J. M. Cranz has been in the rubber industry more than 15 years. He began with the Republic Rubber Co. in the sales end and was later transferred to the factory operating end, where he became factory manager. Mr. Cranz is assistant general manager in charge of factory operations. During the years he has been in the business, he has become widely known in the industry. He has been a member of the specification committee of the Rubber Association of America.

E. K. Twombly, assistant general sales manager, has been some eight years with Hewitt. He started as assistant to the first vice president in connection with sales advertising, costs and factory operations and was later promoted to his present position. Mr. Twombly was formerly general sales manager of the B. & R. Rubber Co.

J. F. Palmer, who is consulting engineer, was the originator and patentee of the cord automobile tire, a development from the world famous Palmer bicycle tire of earlier days. He has been connected with the rubber industry upwards of 30 years. From 1892 to 1913, he was with the B. F. Goodrich Co. In 1913, Mr. Palmer retired but four years ago he again became active, this time with Hewitt. For many years Mr. Palmer advocated the use of a low-pressure tire and was largely responsible for the Hewitt Rubber Co. becoming one of the pioneers in the balloon tire field. For a long time, Mr. Palmer has been developing a new type of pneumatic tire for buses and heavy duty trucks that the Hewitt company expects to market in the near future. It is expected that the new product may play an important part in the future development of the company's business.

O. E. Kruger, general superintendent of the mechanical division, has had more than 26 years' practical rubber factory experience, particularly in manufacturing hose, belting, packing and heavy mechanical rubber goods. He has been about seven years with Hewitt.

E. J. Clare, formerly advertising manager of the Wire Wheel Corporation of America, has just been appointed advertising manager of the Hewitt company. The advertising will now be separated from the sales division and operated through a fully equipped advertising department.

C. H. Paeplow, mechanical and plant engineer, has been with Hewitt 15 years in charge of all mechanical equipment and building construction. He is de-

(Continued on Page 80)

BLACK is BLACK

Fairly true as regards color, but the behavior of any carbon black in a rubber compound depends on how it is manufactured.

aerfloted
ARROW BLACK

Produced for the rubber trade under the exact conditions necessary to develop maximum re-enforcing power, — ***uniformly.***

J. M. HUBER, Inc.
MANUFACTURERS

MAIN OFFICE
130 West 42nd St.
New York City

FACTORIES
Swartz, La. and
Breckenridge, Texas

STOCKS CARRIED AT

Baltimore	Cincinnati	Los Angeles	Toronto, Can.
Boston	Cleveland	New York	London, Eng.
Chicago	St. Louis	Philadelphia	Paris, France

Hamburg, Germany

SEES NEED FOR SQUARE WOVEN FABRIC ALWAYS

C. D. Maxfield, purchasing agent of the Norwalk Tire & Rubber Co., Norwalk, Conn., believes there will always be a market for square woven tire fabric, even with the entire elimination of fabric tires. He writes:

"Relative to the square woven tire fabric and the effect upon it by the elimination of fabric tires, speaking for ourselves we might say that the elimination of the fabric tire probably will not make any difference in the amount of square woven fabric consumed.

"You will of course realize that in the construction of cord tires a certain amount of square woven fabric is used for chafer strip, although this fabric is not quite as heavy as the builder fabric ordinarily used in fabric tires.

"Our consumption of square woven fabric for this purpose has for some time been more than three times as much as the amount of square woven fabric consumed in fabric tires, so that as far as we are concerned, square woven fabric will still be a necessity even with the entire elimination of fabric tires.

"Relative to the cord fabric situation, it is certain that at the present time the high prices of Egyptian cotton have compelled users to turn to the longer staple American cotton and in many cases to use a combed instead of a carded fabric.

"This situation certainly tends toward the creation of a wider range in tire fabric qualities. This has already been indicated by the wide spread in prices on cord fabric and we recently noticed a spread as much as 11 cents per pound. For the manufacturer who is producing a quality tire, this presents a serious problem and one which will require careful handling in order to maintain quality and still keep production costs within the proper limit."

Reo Rubber Formed

The Reo Rubber Co., Brooklyn, has been chartered at Albany with $20,000 capital to manufacture rubber goods and novelties, Meyer, Davis and Pearl Weiss, 286 East Broadway, New York City, are directors and subscribers. Max Cohn, 116 Nassau St., is attorney for the corporation.

OLD GOODS SHOULD NOT BE BURIED

Costly errors are frequently made by stock clerks in retail stores in the placing of new goods on top of similar merchandise which has been in the store for some time, according to experiences related yesterday. The relator was a prominent manufacturer of rubber goods, who said that he was recently being shown through a well-known out-of-town store by an executive who prided himself on its efficient working. The manufacturer went into the stock room, and, being naturally interested in his own goods, went to where they were located. To his surprise, upon taking off the newly arrived boxes of merchandise he discovered goods at the bottom which had been shipped by him more than two years before. The store executive was perturbed, to say the least. The necessity of having old merchandise, particularly items subject to deterioration, go to the sales counters before newly arrived goods, the manufacturer said, has now been impressed on the store clerks of this store at any rate.

Rubber Method Patented

Henry Joseph, inventor of a process for fabricating rubber, recently granted U. S. Patent No. 1,534,527, has assigned by mesne assignments the patent to the Tucker Rubber Corp., Buffalo, N. Y. The process of producing a sheet rubber fabric having on its face a positive reproduction of textile fabric consists in impressing upon the face of a sheet of uncured rubber the superficial characteristics of a textile fabric, vulcanizing the sheet so as to produce a negative of the fabric and applying a sheet of uncured soft rubber to the negative and vulcanizing the sheet of soft rubber to form the positive design.

Nu-Cord Starts Production

The Nu-Cord Tire & Rubber Co., Burrell, Pa., recently started production of tires with an initial force of 30 hands. J. E. Myers, is president and general manager; and the production manager is R. J. Towell.

NEW ENGLAND TIRE & RUBBER CO. BANKRUPT

The New England Tire & Rubber Co., Holyoke, Mass., was petitioned into bankruptcy in United States District Court recently by three creditors with claims totaling $1,093.

The company was reorganized on Feb. 18, when Arthur T. Hopkins of Boston was elected president and L. A. Laporte, treasurer and general manager. The reorganization followed a period of business depression. The company was organized in 1920 with a capitalization of $3,000,000 and has a building in Main street. The complete equipment and the building and land have been appraised, Mr. Laporte said, by a New York concern at $644,000. The assessors place the value of the property, including land and buildings at $219,500.

Visits Dunlop Plant

Sir Eric Geddes, chairman of the Dunlop Rubber Co., Ltd., paid one of his periodical visits this month to the Dunlop Tire & Rubber Corp. of America at Buffalo, N. Y.

Shortly after his return to England he will proceed to Malacca, F.M.S., to investigate the position of the largest Dunlop subsidiary—Dunlop Plantations, Ltd. This property is one of the largest rubber-growing undertakings in the world, comprising over 60,000 acres, of which 47,000 are planted. It is valued at £2,300,000 ($11,500,000).

British Hose Trade Brisk

Despite the continued unsatisfactory state of the engineering, coal mining, and shipbuilding trades in Great Britain, the demand for mechanical rubber goods has been well maintained. Especially is this so in regard to many types of hose. A heavy call is being experienced for petrolic, suction, and acetelyne welding hose. The domestic demand for garden hose has not been quite so brisk up to now, partly on account of stocks on hand and partly owing to keen competition from America and Germany. The export trade in hose, however, particularly to South America and Continental Europe, is in a flourishing condition. But here also German competition is very marked.

THE VULCANIZED RUBBER CO.
Manufacturers of
HARD RUBBER GOODS
of Every Description
251 Fourth Ave. New York

RESULT GETTERS—
Thats what THE RUBBER AGE want 'ads' are! Try one when you need more equipment or want to dispose of old machinery.

Perfect Beads

Entire freedom from bead trouble in the construction of straight side tires is assured by the use of either National "(Patent)" High Tensile Strength, Flat Woven, Bead Braid or our new (Pratt Patent) Bead Cables. These cables, made to dimensions specified, have seven strands, yet only one piece of wire is used without soldered, welded or brazed joint.

Write for working samples of either National flat braid or Pratt cables (no charge to tire manufacturers) and full information as to our products and service.

Our engineering department tests beads and furnishes complete confidential reports as to their stretch, set and bursting point, without charge. Inquiries solicited regarding this special service.

National Standard Company
Niles, Michigan

BRIGHTON MILLS PLANS TO BUILD IN GEORGIA

Brighton Mills, large suppliers of tire fabric to the trade, have secured a site and plan to erect a mill at Shannon, Ga., seven or eight miles north of Rome.

A special meeting of the stockholders held on March 31 approved the plans submitted by the officers of the company, which call for the purchase of approximately 800 acres of land, the erection of modern mill buildings, and mill village, and the removal of spinning, twisting and weaving machinery from the Passaic plant sufficient to produce approximately 5,000,000 pounds of cord fabric per year.

Preparation of plans and specifications are well advanced. Contracts will undoubtedly be let within the next week or two, and it is expected that production of fabric will begin about Jan. 1, 1926.

Estimates 1925 Consumption

The Crude Rubber & Foreign Produce Corp., 250 West 57th St., New York City, of which F. R. Henderson is president, recently issued the following statistics of production and consumption in 1925:

Month Arrival	Shipment	Maximum Production % of S.P.	Production Unrestricted Countries	Production Unrestricted Countries	World Production	World Consumption Estimated at 110% of 1924
Jan.	Nov.	50	—	—	36,699	43,175
Feb.	Dec.	50	—	—	38,804	43,175
Mar.	Jan.	50	14,834	19,583	34,417	43,175
Apr.	Feb.	55	16,192	19,583	35,775	43,175
May	Mar.	55	16,192	19,583	35,775	40,000
June	Apr.	55	16,192	19,583	35,775	40,000
July	May	65	18,907	19,583	38,490	40,000
Aug.	June	65	18,907	19,583	38,490	40,000
Sept.	July	65	18,907	19,583	38,490	46,350
Oct.	Aug.	75	21,625	19,583	41,208	46,350
Nov.	Sept.	75	21,625	19,584	41,209	46,350
Dec.	Oct.	75	21,625	19,584	41,209	46,350
					456,341 (tons)	518,100 (tons)

STOCKS— DEC. 31, 1924.		
U.S.A. On Hand and Afloat		102,000
U. K. London & Liverpool & Afloat		37,500
Singapore and Penang		18,600
Total		158,100 tons
World Production—1925	456,341	
World Stocks—		
Dec. 31, 1924	158,100	614,441 tons
World Consumption—1925 (110% of 1924 Consumption)		518,100 tons
Total Rubber in World Dec. 31, 1925, including U.S.A. Stocks & Afloat, U. K. Stocks & Afloat and Far East Stocks		96,341 tons

Barr Building Addition

A new 50 by 20 feet, two-story brick addition is being built to the plant of the Barr Rubber Products Co., Sandusky, Ohio. Work on the new section was started recently, and it is planned to have it ready for occupancy by June 1. This addition will add 2,000 square feet to the company's floor space.

Production at the local plant has been increasing steadily and fast. Fifteen hundred gross, or about 216,000 toy balloons are being manufactured daily, and about 35,000 rubber balls.

In addition to this, a large number of rubber daggers, felt caps, and hydrometers are being turned out. The caps are a side-line, being made from the pieces of felt that are unavailable for use in the manufacture of felt-covered balls.

"Rulatex" Registered

The Latex Products Co., Inc., New York, recently registered in the U. S. Patent Office, under Ser. No. 208,409, the trade-mark "Rulatex" which includes a picture of a native tapping a rubber tree and the words "Rubber Latex—A seamless rubber flooring." The trade-mark has been used since November, 1924 by the company on a flooring composed of rubber latex reenforced principally with asbestos fiber applied in a plastic state to form a seamless rubber surface.

UNION TIRE & RUBBER FORMED AT MT. VERNON

The Union Tire & Rubber Co., Mt. Vernon, Ohio, was recently incorporated with an authorized capital of $750,000. The incorporators are J. Shepler, Louis J. Hinsch, F. M. Hinsch, E. G. Shepler and Walter E. Hame. It is believed that the company was formed to acquire the Mt. Vernon Rubber Co. but as both William H. Perkins, president of the Mt. Vernon company and George H. Jones, secretary, were out of town, these rumors could not be confirmed. As both men had gone to Columbus, it was rumored that a deal would be closed there shortly.

The Mt. Vernon Rubber Co., which was formerly the Knox Tire & Rubber Co., suspended operations last year.

IT PAYS TO MICRONIZE

SANITATION

RUBBER plays a most important part in the manufacture of drug sundries and surgical apparatus.

Heat, cold, pressure and strain all do their parts toward wearing out these articles of many uses; their resistance to abuse is measured by the quality of the rubber compound used in their manufacture.

That this must be of great molecular strength is an absolute necessity; that MICRONEX will increase their resistance has been proven by diligent research and experiment.

In all your compounds, specify

MICRONEX

REG. U.S. PAT. OFF.

The King of Rubber Pigments

Makes your products resistant, in their highest possible degree, to heat, cold, wear and strain.

Samples and specific information upon request.

Binney & Smith Co
41 E. 42nd Street-New York City

NO CHANGES IN STAFF OF HEWITT RUBBER CO.

(Continued from Page 77)

signer of a number of important manufacturing machines and has also patented a machine process used in making rubber belting.

Charles Ellis, chief chemist, has been with the Hewitt laboratories since 1913. He is well known in his profession.

J. B. Bennett, in charge of experimental work, has been an industrial chemist for many years. He has been connected with Hewitt about six years.

As has been announced, Mr. Kelly will now become president of the company and will have general supervision of all its affairs. His associate in the deal, Mr. Springer, will be vice president and have direction of sales and advertising.

Patent Rubber Method

Charles W. Steele and Richard T. Griffiths, inventors of a method of making hollow rubber articles recently granted U. S. Patent No. 1,535,354, have assigned the patent to the Miller Rubber Co., Akron. The method consists in holding a pair of blanks about the edges of opposed die cavities forcing the blanks into the cavities to cup the same without contact with the walls of the cavities. The cavities are simultaneously vented and the return of escaping air is prevented. The cupping is carried beyond the required degree, whereby the inherent elasticity of the material causes a partial reaction, subsequently dieing together such partially retracted blans with an interposed gasifying medium. The article is finally vulcanized in a closed mold.

Manhattan Reports Profits

The Manhattan Rubber Manufacturing Co., Passaic, N. J., recently reported for the quarter ended March 31, 1925, gross income of $2,703,706; net after liberal depreciation allowance amounting to $264,900, or almost two and one-half times the quarterly dividend requirement.

Murray Opens Branch

The Murray Rubber Co., Trenton, N. J., has opened a direct factory branch at Kansas City, Mo., to serve its trade in the West and Southwest territory.

A complete stock of quality merchandise and mechanical rubber goods will be carried for distribution to Murray distributors at this point. Murray representatives will operate out of the Kansas City district office instead of from the factory at Trenton, N. J.

R. M. Stuart, general manager, mechanical goods division of the company, has appointed L. E. McCune Kansas City district manager.

Increases Capital

The Moore-Merritt Rubber Co., Chattanooga, Tenn., recently received authorization to increase its capital stock from $350,000 to $600,000.

TO HANDLE SALES FOR BOSTON WOVEN HOSE

Following the resignation of Edgar E. Fay, who for twenty-five years has been in charge of sales, Arthur C. Kingston becomes director of sales of the Boston Woven Hose & Rubber Co., Boston, Mass.

Mr. Kingston brings to his new office an experience of more than thirty years in merchandising of mechanical goods, having been general sales manager of both the Peerless Rubber Co. and the Mechanical Rubber Co., United States' subsidiary companies.

Take Houk Bonds

Seven Dover and New Philadelphia banks have taken a $75,000 first mortgage bond issue of the Houk Rubber Co., owners of the former Tuscora Rubber Co. plant in Dover, Ohio. The bonds were issued to finance the holding company until such time as the Monoblock Co., who have leased the plant exercise a two years' option to buy the plant.

Joins Chemical & Vacuum

It was recently announced by E. G. Rippel, president of the Chemical & Vacuum Machinery Co., Buffalo, N. Y., that H. E. Neubauer had joined the company as chief engineer. Mr. Neubauer was formerly assistant chief engineer of the Buffalo Foundry & Machine Co., and later vice-president of the O. S. Sleeper Co., Inc.

If raw vegetable oils, petrolatum or palm oils are used for this purpose (lubricant) there is a liability that they will dry out prematurely and that the stock will become lifeless. Right here is where Factice can be used to advantage.

From—
"The Practical Side of the Use of Factice."

RUBBER FACTICE OF HIGHEST QUALITY THE STAMFORD FACTICE STAMFORD CONN THE STAMFORD RUBBER SUPPLY CO

Est. 1900 Inc. 1919

THE KUHLKE MACHINE CO.

Formerly Jones & Kuhlke

AUTOMOBILE TIRE MOLDS and CORES

GENERAL MACHINE WORK

Akron, Ohio

PEQUANOC RUBBER COMPANY

Office and Works: BUTLER, N. J.

MANUFACTURERS OF

RECLAIMED RUBBER

WITH A REPUTATION FOR

UNIFORMITY -- RELIABILITY -- CLEANLINESS

TO STRESS IMPORTANCE OF CHEMISTRY AT SHOW

The growing importance of the chemical industry to the economic life of the nation will be emphasized at the Tenth Exposition of Chemical Industries to be held during the week of Sept. 28-Oct. 3, 1925 at the Grand Central Palace, New York City. Plans are already under way to have this Exposition embody the essential features of the present status of the industry. The latest developments in production methods, the most efficient equipment as well as the fundamentals of the industry are to be there for inspection, as incentive to progressive manufacturers for thoughts and new ideas on the manufacture of the raw materials into finished products.

Applied chemistry and engineering, in view of improving the quality, increasing the production and lowering the cost to meet competition, will constitute one of the dominant notes at the Exposition; great efforts are being made to improve and enlarge its scope by making it a truly representative display place for products of the American chemical industry, to create public confidence and goodwill for the national industry, which is essentially the keynote of the Exposition, and to foster constructive business relations between the producers and consumers.

Much Learned Since 1915

Since 1915, when the first Exposition of Chemical Industries was held, much has been learned regarding the best means to give real service to exhibitors and visitors; the subsequent eight expositions have shown clearly the normal progressive steps followed in this direction; the Tenth Exposition will be under the same management as all the previous nine expositions, and this important factor warrants the statement that the coming Exposition will embody the best that has been learned by experience.

At first a small collection of what eighty-three exhibitors could show in 1915 of American Chemical Industries, this national exposition has grown to be the most convenient and representative show place of the steadily increasing chemicals and chemical equipment industries. The exhibits of more than 400 exhibitors at the Ninth National Exposition of Chemical Industries, besides illustrating the sound foundations of the American chemical industries gave an insight into the wealth of the indigeneous raw materials needed by the industry; has embodied manifest proofs of the importance of the Exposition as a testimonial to the great progress in production and quality of American chemicals and chemical equipment, as an educational institution, as the most stimulating factor for creating business relations between producers and consumers, and as the best medium of gaining good will for our national industries.

It is evident that the scope of the Exposition has to be broadened many steps further, just as evident as the need of the ever progressive march of the industry it represents. This is the guiding spirit animating the intimate and creative cooperation of the Advisory Committee of the Exposition with the Managers. Among the many outstanding steps in the scope of the Tenth Exposition of Chemical Industries, the one which will give lasting educational results is the institution of a "Court of Chemical Achievement" plans of which were inaugurated at a recent meeting of the Advisory Committee of the Exposition and heartily welcomed by the Management. Achievements related to the chemical industry, whether in pure research or industrial research fields, will be given deserved attention by a specially appointed Committee of Approval of the American Chemical Society and those considered meritorious will be prominently displayed in the form of small unit exhibits grouped together in a specially arranged "Court of Achievements." This will be truly a Museum of American Achievements for the progress of the chemical industry.

The management of the Tenth National Exposition of Chemical Industries, Grand Central Palace, New York City, will be glad to give full details of any of its work in which readers are interested.

Lee Reports Profits

The Lee Tire & Rubber Corp., New York, recently reported a profit of $5,374 for the first quarter of 1925, as against a loss of $112,000 in the same quarter last year.

KNOWLEDGE

The man that uses AZO Zinc Oxide knows it is uniform in quality and a dependable pigment at all times. Giving him all that can be desired in purity of content and color.

To those who have not as yet experienced the satisfaction of working with AZO, we invite them to write us for samples of AZO ZZZ Brand Lead Free Zinc that they may become acquainted with its all around goodness.

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DENIES RESTRICTION CAUSES HIGH PRICES

The high price of rubber is due to the increased demand and not to decreased production, is *The London Times* comment on the complaint of Harvey Firestone, the American automobile tire manufacturer, that the British price control is making motoring expensive for the American car owners. It says:

"The restriction certainly has had a number of effects on the rubber industry, but this is not one. The increased consumption of rubber alone is responsible for the recovery in the fortunes of the rubber industry. Restriction on British plantations has reduced their output and raised their costs and caused them to earn smaller profits than their unrestricting competitors, but the reduction in their output has been more than equaled by the increase of duties on the output. Consequently the production of rubber last year was greater than the year preceding the compulsory restricting scheme.

"The failure to realize the increased consumption of rubber and not the reduction of output is the real factor which brought about the improvement in the postion of the rubber industry and has led people to jump to all kinds of erroneous conclusions.

"For instance, Mr. Firestone attributes to the British rubber restriction the increase in the price of rubber tires because of a possible scarcity of rubber. To us, of course, the prospect of America's having to pay more for rubber is by no means unwelcome. It will assist us in paying the interest on our debt to America. But as the figures show, it is inaccurate to attribute the reduction of stocks of rubber to the lessened world output. It is to the activities of Mr. Firestone and other users of rubber that the decrease in stocks is due."

American Rubber Meets

At the annual meeting of the American Rubber Products, Inc., Wausau, Wis., formerly the Marathon Rubber Products Co. which was held recently, the board of directors was re-elected as follows: W. C. Landon, George G. McIntosh, Andre Burnett, N. H. Zender and J. H. Vogt. Reports of officials showed that the company, which was organized a year ago to take over a defunct business, earned a dividend of 12½ per cent, and did a business amounting to $130,000. The directors re-elected the following officers: W. C. Landon, president; George G. McIntosh, vice-president; and Andre Burnett, secretary and treasurer. The company makes rubber clothing, hospital sheeting and rubberized fabrics.

RUBBER IN HAITI

While H. S. Firestone of Akron is experimenting with rubber plantations in Florida and in Liberia, the United States Department of Agriculture is trying to grow rubber 15 degrees farther from the equator than any other Hevea trees have been cultivated or found wild. This experimental plantation of Hevea trees has been established by our government in Haiti, and 25 pounds of smoked rubber from there have been turned over to the Bureau of Standards for testing with smoked sheet rubber from the East Indies.

Keystone Reports a Deficit

The report of the Keystone Tire & Rubber Co., New York, for 1924 shows gross sales of $141,586. After all expenses and charges, including reserves for depreciation, interest, taxes and doubtful accounts, the company reported a deficit of $325,498 for the year. The general balance sheet showed net current assets valued at $442,628 and net current liabilities amounting to $92,478.

Vulcanizing Method Patented

Frank J. Lawler, recently granted U. S. Patent No. 1,534,403 on a method of stripping vulcanized material from molds, has assigned the patent to the Fisk Rubber Co., Chicopee Falls, Mass. The device comprises a freely rotatable roller, means to move the roller between the material and the surface of the mold and means to maintain the roller out of contact with this surface.

Miller to Build Homes

Jacob Pfeiffer, president of the Miller Rubber Co., has announced that his company plans to erect, 1,000 new homes in the suburb of Kenmore for the use of Miller employees. During the war the company purchased a tract of land and installed sewers and water mains. Now Mr. Pfeiffer has told the Kenmore city council that his company is willing to finance the paving of streets in the allotment for the benefit of its employees.

The Miller Rubber company during the war erected homes for employees both in Kenmore and Akron on the terrace-apartment plan.

"Holtite" Registered

The Holtite Manufacturing Co., Baltimore, Md., recently registered in the U. S. Patent Office the trade-mark "Holtite" under Ser. No. 208,909. The trademark is used on rubber heels and soles.

BRITISH GUIANA HAS PROMISE AS PRODUCER

(Special to THE RUBBER AGE*)*

As a result of the increased interest shown in British Guiana since the opening of the Empire Exhibition at Wembley last year, this comparatively unknown British colony has appointed its first Trade Commissioner in London. J. B. Cassels, M.B.E., who occupies this position, in the course of a recent address made interesting reference to British Guiana's possibilities as a rubber-producing country.

The climate and soil, Mr. Cassels said, have proved particularly acceptable to Para rubber (Hevea brasiliensis) and it is estimated that there are several million acres of readily accessible land along the rivers, and upon the lower slopes of the hills, upon which Para rubber would grow vigorously. On the various experimental estates it has been demonstrated that the yield is satisfactory and the product of excellent quality. Some British Guiana rubber was valued at the top price of the market in 1910, and at the International Rubber Exhibition held in London in 1911 a sample of rubber from an estate on the Demerara river was awarded the silver cup for the best example of West Indian plantation rubber. Tapping of the plantation rubber grown in the colony is possible at four years of age.

Balata has been regularly exported from British Guiana for over sixty years. The balata tree ("bullet wood") is the colony's hardest wood, but felling is not permitted except under written permission, which is rarely granted, although it is contended by those engaged in the industry that, unlike the rubber tree, after one tapping for gum it rarely recuperates sufficiently to be worth bleeding again. Tapping, which may only be performed on trees measuring at least 3 feet in girth at 4½ feet above the ground, is by cutlass incisions in a herringbone pattern on one side of the tree. Tappers are recruited mainly from the black population, although aboriginal Indians are occasionally employed with success. The gum is dried in thin sheets in the bush and is exported in that form.

Balata trees are found widely scattered throughout the entire colony, but in certain areas, notably the upper Berbice River, the Rupununi district and the forest regions above Kaieteur Falls, their distribution is fairly intensive. Royalty at the rate of two cents per lb. is payable to the Government on the dried product, and licenses are issued for collecting at $20 per year, with a filing fee of $8. Licenses may extend over areas varying from 50 to 250 square miles and for periods of 5 to 15 years.

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Will America Grow Its Own Rubber?

Will American capital readily accept the hazards of uncertain climatic conditions — drought — insects — hurricanes — etc. in a distant territory to await a problematical return on the investment in 5 years?

Can Rubber be grown in the U. S. by American labor on present land values and sold in competition with the Far East?

Should America grow its own Rubber, at least 5 years will be needed to show the results.

All the statistics point to a shortage of Rubber NOW. The figures are there for all to see.

With but a nominal advance in the price of finished articles, what is the American Rubber Manufacturer to do?

Is the continued high quality of our rubber products to be imperilled by the cold law of necessity? No—because in place of drugs and chemicals, your Reclaiming Industry is tuned up as never before to give you an adequate, constant, uniform supply of high-grade Reclaimed Rubber, which is available right at your receiving door.

There is no shortage of Reclaimed Rubber. *There has been no advance in its price comparable with Crude.*

THERE HAS BEEN A PHENOMENAL ADVANCE IN ITS VALUE

The proper, consistent use of a rubber auxiliary like our BISON SUPER-RECLAIM or BLACK DIAMOND, which stand out by sheer merit, is the one avenue left to maintain the quality of your finished product at reductions in pound-cost, volume-cost, and time of cure and operation.

We are fully prepared to co-operate in demonstrating that

AMERICA SHOULD USE ITS OWN RECLAIMED RUBBER

U. S. RUBBER RECLAIMING COMPANY, INC.

100 East 42nd Street, N. Y. **Factories: Buffalo, N. Y.**

"42 years serving the industry solely as reclaimers"

RESTRICTION SHOULD BE REVIEWED SOON, DECLARES SIR ERIC GEDDES

Passing of Each Additional Month Under Stevenson Plan Makes New Development as a Dutch Monoply More Probable, Says Chairman of Dunlop Rubber

Sir Eric Geddes, chairman of the Dunlop Rubber Co., Ltd., gave voice to very decided views on restriction at the statutory meeting of the concern just held in London. Dunlop is one of the world's largest producers, as well as a manufacturer, and its directors resent having to curtail their output.

"Whatever views individuals may have held as to the value or otherwise of the restriction scheme when it was introduced, and when rubber was about 6d. (12c) per lb.," said Sir Eric, "the time must surely come in the very near future, with rubber stocks falling, when this measure of temporary assistance to the producer should be reviewed.

"World rubber consumption has increased enormously during the period since this restriction was brought into force, and the only countries where development can be taking place now are those not under the British flag, where other nations, such as the Dutch, have declined to bring in restriction. Therefore the time must soon arrive when we, as large investors in rubber estates, should not be deprived from making ordinary commercial use of the productive capacity which our capital and foresight have created.

Cannot Use Own Rubber

"To us, as consumers of our own estate produce, it seems particularly unfair that we should be denied the right to bring home for our own use rubber which we have grown and harvested, while we are obliged to buy from other people, and largely from another nation, raw rubber for use in our own factory in England. It takes seven years for new rubber lands to come into bearing, and I ask what planter under the British flag is going to incur development expenditure without in the least knowing whether he is going to be allowed to harvest his crop. Restriction was admittedly a temporary measure to meet the abnormal post-war situation. It undoubtedly saved many planters from ruin at the time, but surely now the whole question should be reinvestigated, unless the development of new areas is to pass entirely to the Dutch East Indies and elsewhere."

The opinion is gaining ground in Britain that the need for reinvestigating the restriction scheme will have to come within the next twelve months, and it is possible it may be removed altogether by degrees over the next two years. Estimates of profits to be obtained from rubber production will then need to be revised, and some of the new propositions now being put before the public may prove entirely on the wrong side in their estimates. One thing is certain under restriction: with every additional month of it the contingency, which Sir Eric foresees, of new development becoming a monopoly of the Dutch, becomes more probable.

Manufacture Concentrated

The chairman gave a favorable account of the operation of the Fort Dunlop factories. At the main factory the whole of the tire manufacture in England, and also the golf ball manufacture, is now concentrated. The freehold site consists of 390 acres and the buildings—all fully occupied—have a floor space of 42 acres.

"We are selling tires," he continued, "at prices actually below the pre-war prices, giving a mileage certainly three times as great as pre-war. One may almost say the quality of tires is so good today and the prices, comparatively, so low, that tire cost is becoming a negligible factor in motoring. That we should be able to do this in world competition, with tariff walls protecting all overseas markets and no protection in the home market, and still show a satisfactory profit is proof of the efficiency of the undertaking. We have raised our sales and accountancy organization to such a high standard that, operating some 30,000 live accounts in the home company alone, all statements are sent out within three days from the end of the month.

"We have recently gone largely into the production of giant pneumatics for buses and charabancs, and the recently published report of the Edinburgh Corporation showed it was getting mileages of 45,000 from them. The statement of a bus company in the Midlands showed it was getting mileages of 50,000.

"The new nitrogen-filled tennis ball is immeasurably superior to any ball yet marketed. It is a ball with an inner tube. It retains its qualities after prolonged hard play, as the scientifically compounded "inner tube" holds the gas almost indefinitely. I have had six of these balls played steadily on a hard court for 150 sets, and the variance from standard in bounce or weight after this grilling test was infinitesimal. The Ball has been authorized by the U. S. Lawn Tennis Association, and the authorization of the British Lawn Tennis Association is expected shortly."

Capabilities of Germain

Sir Eric Geddes waxed eulogistic regarding the capabilities of E. B. Germain, president of American Dunlop. "He is a gentleman of very exceptional qualifications," he said. "He attacked his problem with enthusiasm, ability and good judgment, and with a great courage I have never seen exceeded and seldom equalled. He has gone through anxious months fighting almost overwhelming competition and with a sales resistance of a character as keen as we have ever seen. He has built up from nothing a manufacturing staff and organization, a sales force, and a system of distribution which seemed impossible a year ago. From small beginnings the factory is now well under way, and its product is recognized as of supreme excellence all over the United States."

In conclusion, Sir Eric mentioned the concern had voted a sum of £5,000 ($25,000) to supplement £2,100 ($10,500) already subscribed by its employees at Fort Dunlop for the erection and equipment of a sports pavilion and dressing rooms on the company's sports ground at Fort Dunlop. This is being erected as a war memorial to the employees who fell in the war.

Henderson Making Balloons

R. B. Tracy, eastern manager of the Henderson Tire & Rubber Co., was in New York recently and announced to their sales organization that the Columbus factory was now in production of a full line of balloon tires. This makes the Henderson line one of the most complete in America, which includes the Henderson Classic Cord, the Heavy Duty, the Henderson Dual Service and the Henderson Interchangeable Balloon Tires.

The Henderson tire is now marketed all over the east with a large sales organization.

GUAYULE RUBBER
"DURO" Brand Washed and Dried Ready for Compounding
A comparatively small percentage in a compound will make a stock run smoother on calendars and tubing machines, without depreciating the quality
ESPECIALLY USEFUL IN FRICTIONS
CONTINENTAL RUBBER COMPANY OF NEW YORK
120 Broadway
New York

Native Production Small

Statistics concerning the export of native-grown rubber from the Dutch East Indies are being read with interest at the present time by British growers, in view of the apprehension that the expansion from this source might eventually offset the reduction brought about by restriction in British territory. A large percentage of this native rubber finds its way to the markets of the world from Singapore and Penang, to which ports it is despatched for grading and shipment, and the figures for 1924 furnished by the Malay States Information Agency regarding this class of imports are of value in affording reliable information of the relation of these supplies to world production. Native-grown "wet" rubber shipped to Malaya for re-export comes almost entirely from the Dutch islands of Sumatra and Borneo, from which some 80,000 tons of wet rubber were imported during 1924. After allowing for moisture, the figures show that the contribution to world supply from this source amounted to only 60,000 tons, or little more than 14 per cent.

Rubber Heel Patented

Joseph J. Percivall, East Orange, N. J., is the patentee of a rubber heel registered under U. S. Patent No. 1,531,306 which has a plurality of e'ongated upwardly opening recesses bordering the periphery of the heel with undercut, substantially concave side-walls.

INFORMATION EXCHANGE

The inquiries listed below have already been answered but additional information from our readers will be welcome. Mention the reference number in correspondence.

Manufacturers' Agents

(Reference No. 145) We are manufacturers agents to the jobbing trade on auto accessories and radio apparatus and will appreciate it if you can refer to us any inquiries for representation from your readers who market through these channels. We cover Illinois, Indiana, Michigan, Wisconsin and Iowa.

* * *

Hard Rubber Bars

(Reference No. 146) We are in the market for immediate shipment on solid hard rubber bars 2″ outside diameter and also solid hard rubber bars 2¾″ outside diameter, both in shipments of 200 pounds and up. Could you place us in touch with some manufacturers ?

* * *

Toy Balloon Manufacturers

(Reference No. 147) We are very much interested in getting the names and addresses of all the rubber toy balloon manufacturers and manufacturers of novelty goods. We have the names and addresses of most of such manufacturers in Ohio, but understand that there are a great number in the eastern states.

Offer Norwalk Notes

The Norwalk Tire & Rubber Co., Norwalk, Conn., recently offered an issue of $750,000 ten-year 7 per cent sinking fund gold notes due March 1, 1935 at 99¼ and interest to yield more than 7.10 per cent. The offering was made through Frazier & Co., Inc., New York. A sinking fund to retire $80,000 principal amount of these notes annually, payable in semi-annual installments beginning March 1, 1926, will be provided in the indenture securing the issue.

The company reports progress in their business during the past year. On December 31st their balance sheet shows total assets and liabilities of $3,434,430., with a surplus of $710,237.

Tire Machine Patented

Florain J. Shoek, inventor of a tire-making apparatus recently granted U. S. Patent No. 1,534,250, has assigned the patent to the B. F. Goodrich Co., Akron. The apparatus consists of the combination of a rotatable tire-forming core of a fabric-shaping wheel, a pivoted arm constituting a mounting for the wheel, yielding means for urging the arm about its pivot, a mounting for the pivoted arm and means for adjusting the mounting from the axis of the core to swing the arm in a direction parallel with the plane of the core to vary the action of the yielding means.

Kleinert's
REG. U.S. PAT. OFF.

THE I. B. KLEINERT RUBBER CO. is now located in its new headquarters at 485 Fifth Avenue, New York City, corner of 41st Street, opposite the Library.

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Dress Shields	Reducing Garments	Powder Puff Pockets
Bibs	Bathing Caps	Shirlastic Ribbon
Guimpes	Rubber Sheetings	Tourist Cases
Baby Pants	Hose Supporters	Dress Protectors
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For Artificial Leather, Oil Cloth, Carriage and Automobile Covers

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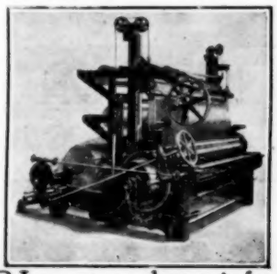
THE MODERN WAY

to make stripping is to cut it on Cameron machines.

¶ These are the standard sources of strip supply, whether you make mechanical rubber goods, hose, adhesive tape, brake lining, belting, footwear, friction tape, tissue, insulating tapes, sheeting, duck, tire flaps, tire wrap, or other rubber goods in strips.



CAMACHINE 10 MODEL 20

This is a heavy duty Cameron Machine for universal service in all the branches of the rubber industry. It is built in sizes to handle webs up to 82 inches wide, winding rolls to a maximum diameter of 36 inches. A liner apparatus for insertion and removal of liner fabric is included.

¶ Let us send you information on the proper machine for *your* needs—mail the coupon!

To Cameron Machine Company, a
61 Poplar Street, Brooklyn, New York.

¶ *Send us further information on machines for producing* .....

Firm Name .....
Address .....

4,170,000 ACRES OF RUBBER PLANTATIONS

(Special to THE RUBBER AGE*)*

Although no official data exists as to the total land now under rubber cultivation, reliable estimates place the figure at some 4,170,000 acres for Eastern plantations, 57 per cent being allocated to Malaya, 26 or 27 per cent to the Dutch East Indies, and something over 10 per cent to Ceylon, and the small remainder scattered.

The capital involved is calculated to be about £175,000,000 ($875,000,000). Of this sum £75,000,000 ($375,000,000), representing 1,225,000 acres is controlled by British directorates, or owners working in concert through membership of the Rubber Growers' Association, from which it is ascertainable that the average cost per planted acre for these ventures is in Malaya, $290 (U. S.); Ceylon, $320; and elsewhere, $310 per acre, the average all over being $300. By apportioning the remaining $500,000,000 capital to the other 2,945,000 acres, their cost works out at $150 per acre, but it is possible that some of the private and native estates in the Dutch Indies are not capitalized at over $125 per acre.

Production per acre in 1923 for the respective territories is estimated at:—

Malaya	218 lb. per acre	
Ceylon	267 " " "	
Dutch Indies and Rest	218 " " "	(restricted)
Do.	360 " " "	(unrestricted)

If, as some estimators claim, the entire plantation output for 1924 was 365,000 tons, the above figures of acre production become:—

Malaya	194 lb. per acre	
Ceylon	260 " " "	
Dutch Indies and Rest	194 " " "	(restricted)
Do.	420 " " "	(unrestricted)

In view of this striking disparity in favor of non-controlled owners, the relationship of costs is of interest. For the purposes of equation "all in" costs of British undertakings in Malaya are put at 9½d. (19c) per lb. in the current year. Of this, ¾d. (1½c) per lb. represents London's administration charges, such as directors' fees, secretarial and office expenses, an oncost from which the local owner who sells f.o.b. is exempt, and at 40 per cent restriction of output on the larger estates capable of producing 400 lb. per acre, overhead charges are increased by two-thirds of those on full production.

Expert estimates of consumption for 1925 vary from 450,000 to 500,000 tons, and if restriction were removed the world's present sources of supply could provide 530,000 tons—perhaps more. Investors apparently hold an optimistic view of the outlook. In a recent list of the London Stock Exchange the prices of 174 rubber-growing companies, each of which had paid a dividend for its last financial year, the average price asked for every £100 ($500) of shares was £116 ($580); the average yield at par was 6.6 per cent, and at the quotations then ruling, 4.52 per cent.

NIACET CHEMICAL CO. TO MAKE ACETIC ACID

Niacet Chemicals Corp., capitalized at $1,500,000 preferred stock and 75,000 shares of common stock has been formed to specialize in synthetic chemicals manufactured from acetylene. The directors are W. F. Barret, B. D'Shea and J. A. Rafferty, of Union Carbide & Carbon Corp.; Julian C. Smith, R. A. Witherspoon and F. S. Reid, of Shawinigan Water & Power Co., and Philip Schleussner, Colby Dill and P. Samuel Rigney, of Roessler & Hasslacher Chemical Co. The officers are: W. T. Barret, president; Julian C. Smith, vice-president; Philip Schleussner, vice-president and treasurer, and J. A. Rafferty, secretary.

The three groups represented are prominent in the chemical industry. Shawinigan Water & Power Company, through its subsidiary, the Canadian Electro Products Co., manufacturers in Canada aldehyde, acetic acid and other chemicals; Roessler & Hasslacher Chemical Co., with plants at Niagara Falls, Perth Amboy, El Monte, Calif, and St. Albans, W. Va., are large importers and manufacturers of formaldehyde, aldehydes, chlorine and chlorine compounds, cyanides and cyanide products. Union Carbide and Carbon Corp., through its various subsidiaries, manufactures calcium carbide, acetylene, oxygen, ferro-alloys, carbon products, storage, flashlight and radio batteries.

RUBBER HEEL BURRS
FLAT AND CUPPED
Buy the Burrs with
CENTRAL HOLES
J. H. SESSIONS & SON
279 Riverside Ave., Bristol, Connecticut, U. S. A.

"SILVER SHEEN"
MICA
NON-METALLIC WATER GROUND
Highest Grade for Rubber Industries
Pure—finely powdered—For use in tread stocks, repairing tires, in air bags, inner tubes and various kinds of molded mechanical goods.
Desirable as it is a Toughener and Heat Resister
THE HARSHAW FULLER & GOODWIN CO.
CLEVELAND, OHIO
SALES AGENTS
for
RICHMOND MICA CORPORATION
RICHMOND, VA.
Stocks Carried at
Cleveland O. Richmond, Va.

The CARTER BELL MFG CO
CARTER BELL STANDARD SINCE 1898 RUBBER SUBSTITUTES
150 Nassau Street New York

U. S. RUBBER REPORTS SATISFACTORY PROFITS

At the annual meeting of stockholders and directors of the United States Rubber Co., recently, Charles B. Seger, chairman, announced that sales and profits for the first quarter of the current year were satisfactory and that trade conditions in the tire industry appear more stable than in several years.

Tire business for the first quarter of the year, said Mr. Seger, was most satisfactory, showing a substantial increase in unit sales compared with the same period of last year, also in dollar volume notwithstanding lower selling prices prevailing this year. Due to the fact that the retail selling season for tires started about 30 days earlier this year than usual on account of the mild weather throughout the country, Mr. Seger stated that as a consequence, dealers' stocks have been greatly reduced and the outlook for a continuance of a heavy demand is good.

At the meeting all directors were re-elected for the ensuing year.

U. S. Rubber Co.'s financial condition during the past few weeks has continued to improve. The improvement in tire sales and profits, which helped the company immensely in 1924, has continued so far in 1925 and tire sales are understood to have shown a 25% increase over those of the same period last year.

Profits on mechanical rubber goods and rubber footwear, the other two-thirds of Rubber's business, have also been satisfactory.

U. S. Rubber Co., like other well managed companies in the industry, has greatly reduced operating costs.

The bank debt, an eyesore in the big rubber company's balance sheet for years, was eliminated in February. From the high point on Nov. 20, 1920, when bank loans were $61,205,000, this item was reduced in the regular course of business to $31,490,000 on Dec. 31, last. In order to provide a more permanent form for carrying a part of the company's inventories and other current assets, directors authorized the sale of $30,000,000 6½% serial notes, the proceeds of which were used to retire bank indebtedness.

In view of larger tire sales and satisfactory returns from other departments, U. S. Rubber's earnings in the first quarter naturally exceeded those of the corresponding 1924 quarter. Net income in the full year 1924, after charges and estimated federal taxes, was $8,368,035, equivalent after preferred dividends of $3.87 a share earned on $81,000,000 common stock outstanding. This compared with net of $7,392,657, before federal taxes, or $2.28 a share in the previous year.

After applying the proceeds of the 6½% note issue, net current assets of U. S. Rubber amounted to about $102,000,000, of which about $40,000,000 represented the net of cash and current accounts and notes receivable less current accounts payable. About $62,000,000 represented inventories, materials, supplies in process of manufacture.

E. G. WILMER BECOMES DILLON, READ PARTNER

Edward G Wilmer, chairman of the Goodyear Tire & Rubber Co., Akron, has been admitted to membership in the firm of Dillon, Read & Co., which recently bought Dodge Bros. In addition to his work as chairman of the Goodyear company, Mr. Wilmer is chairman of the United States & Foreign Securities Corp. He is also a director of the North American Co., the Commercial Investment Trust Corp. and the American & Continental Corp.

In 1921 the Goodyear Tire & Rubber Co., which had become involved in difficulties as a result of the crisis following the inflation of 1919 and 1920, was on the verge of receivership. Dillon, Read & Co. were asked to handle a reorganization of the finances and agreed to arrange for the underwriting of securities totaling $100,000,000. Mr. Wilmer, although only 34, was chosen as president in May, 1921. In 1923 he became chairman of the board with headquarters in New York.

Rubber Method Patented

Clayton W. Bedford, inventor of a process of vulcanizing rubber that comprises admixing a zinc persulfide with rubber and applying heat thereto, which was recently granted U. S. Patent No. 1,532,645, has assigned the patent to the Goodyear Tire & Rubber Co., Akron, Ohio.

CABARRUS COTTON MILLS

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MARCH EXPORTS OF RUBBER PRODUCTS, VALUED AT $4,411,107, SET RECORD

Heavy Exports of Tires, Rubber-Soled Shoes, Mechanical Goods and Sundries Reported—High Price of Crude Rubber Causing Increased Exports of Scrap

The Rubber Division has the pleasure of announcing that the value of rubber products exported from the United States in March, $4,411,107, sets a new high record for monthly exports within the period since the Division was first organized, August, 1921. Exports of automobile tires, influenced by improving competitive conditions and increasing demand in foreign markets, have shown a steady growth since early 1924, culminating in shipments of 151,352 casings valued at $1,777,093, and 164,136 inner tubes valued at $268,089 during March 1925.

Tire exports contributed chiefly to the record monthly total, but exports of all classes of rubber products except waterproof rubbber boots and shoes were relatively heavy. March is customarily a month for heavy tire shipments as foreign distributors lay in heavy stocks for the summer trade at this season.

The largest shipments of tires went to Argentina 20,276 casings, Brazil 13,802, United Kingdom 12,897, Denmark 11,277, Australia 9,494, Philippine Islands 9,299, Mexico 7,859 and Cuba 7,856, but tires were sent to every important market during the month. Argentina was also the principal customer for inner tubes, taking 31,923, followed by Denmark 16,671, Brazil 14,564, Cuba 14,092, Australia 9,150, United Kingdom 7,069, Mexico 6,556, Philippine Islands 5,731, and Venezuela 5,492. Solid tire exports numbered 8,086, the United Kingdom taking 1,757, Cuba 1,164, Australia 996, and New Zealand 533. The average unit value per casing exported during March was $11.74; inner tubes averaged $1.63 and solid tires $26.78, or about the same as in recent months.

Heavy Trade in Rubber-Soled Shoes

While exports of waterproof rubber footwear were not high, the shipments of 46,310 pairs of rubber boots and 57,320 pairs of rubber shoes represent good business for this normally slack season. In the canvas rubber-soled shoe trade the exports amounted to 508,801 pairs valued at $360,602, a record previously exceeded on but one occasion in March, 1923, when exports numbered 598,928 pairs.

The principal markets for these canvas shoes were the United Kingdom 106,190 pairs, Cuba 89,894, Denmark 55,139, the Philippines 47,170, Argentina 34,415, Mexico 31,506, Dominican Republic 17,427, Norway 16,396, Germany 16,392 and Newfoundland 13,814 pairs. Germany is re-appearing in the important market columns for several commodities. Rubber heels and soles exports during March totaled 289,301 pounds valued at $88,321, the heaviest shipments going to Mexico, Cuba, Colombia, and the Philippines. The foreign distribution of these products was formerly limited chiefly to Latin American countries, but the recognized quality of certain American brands has resulted in a constant spread of the demand to certain additional countries in Europe and Africa.

Mechanical Rubber Goods Improves

The March trade in mechanical rubber goods was heavier than for several months, trade in this line having been dull since last October. The March shipments included 349,750 pounds of rubber belting, 428,959 pounds of hose, and 172,282 pounds of packing. Shipments to Chile continue much lighter than last year, and the South African market remains a smaller market than in 1922 and 1923, but Mexico, Canada, the United Kingdom, Cuba, Argentina, Peru, British India, Japan and Australia, have increased their purchases from America. The United States is by far the largest exporter of both rubber belting and hose, and is at least among the leading competitors in the packing trade, and in these lines recognized quality is the only sound basis on which business can be built, which indicates the merit of the American products. The rubber thread trade is another line in which America holds a leading position, exporting large quantities to England, France, Italy, Spain, Belgium, Canada, Mexico and Japan, and in recent months to Germany. There is believed to be opportunity for aggressive salesmen to develop additional markets in Europe, particularly in Switzerland, Poland and Czechoslovakia, where there are important elastic webbing industries.

March was a fairly good month for exports of rubber sundries and specialties. Over 20,000 water bottles and fountain syringes were exported, Argentina, New Zealand and Brazil in the Southern Hemisphere being the chief markets at this season, while over 1,000 units were exported to Mexico, Cuba and France respectively. The leading markets for other druggists' rubber sundries, including gloves, nipples, rubber tubing and similar products, were the United Kingdom, Canada, Argentina, Cuba and Mexico, each taking over $4,000 worth. An excellent business was done in rubber bathing caps, this attractive specialty being heavily in demand in European resorts during the summer months, and distributors are now laying in supplies. The exports of bathing caps numbered 36,453 dozen valued at $59,396 during March. American made rubber balls, toy balloons and balloon novelties are also widely appreciated abroad, the export trade during 1924 totaling nearly $1,000,000. During March the exports were valued at $135,894, constituting a new high monthly record, the leading markets being Great Britain, Germany, the Netherlands, Canada and Mexico.

Hard rubber goods for electrical purposes were exported to the value of $21,472 in March, and other hard rubber goods to the value of $67,998. Canada, Great Britain, France, Brazil and Australia were the principal markets, Australia taking $19,268 worth of hard rubber articles other than electrical. Japan, Mexico and Peru also took fair quantities.

Scrap and Reclaimed Exports

The higher price of crude rubber is causing increased purchases of scrap rubber from America. During March, exports of scrap and old rubber amounted to 1,443 long tons, the average value per pound being $0.043. Germany was the principal purchaser, taking almost one-third of the total, but France, Spain, Great Britain and Canada are also heavy importers, and important trade has been developed with Italy, the Netherlands, Sweden and Japan. Exports of reclaimed rubber from America go principally to Canada, where rubber manufacturers use the standard grade of reclaims produced here, European manufacturers are supplied locally by firms which produce innumerable varieties of reclaims in limited quantities to suit the customer's particular desires for a special product.

While waterproofed fabrics and clothing are not included in the monthly total of rubber goods exports stated above, a considerable share of the exports in these classes consists of rubberproofed articles. The March exports of "waterproofed auto cloth and rubberized fabrics" amounted to 202,893 square yards valued at $112,819, and these exports have a very wide foreign distribution. The number of waterproofed outer garments exported in March was 48,572 valued at $112,944, the leading markets being the Philippines 9,633 garments, Newfoundland 9,152, Cuba 8,111, Mexico 6,440, British South Africa 3,822, Canada 3,003, Siam 1,240, Argentina 1,224 and Uruguay 1,104. There is a big European trade in this line but it is mostly supplied with British and German-made waterproofs.

Issue Monthly Charts

The Crude Rubber & Foreign Produce Corp., 250 W. 57th St., New York, has issued the first of a series of monthly charts. The charts dated March, 1925, are printed in three colors and give the Monthly Imports, Consumption and Stocks of Rubber in the U. S.; London Stocks of Rubber; Monthly Production of Motor Vehicles; Monthly Production of Tires; World Exports of Rubber; Spot Price, New York, Ribbed Smoked Sheets and Middling Upland Cotton; and the Total Monthly Exports of Rubber from the East. The charts are designed to fit the leather folder issued by the corporation.

Rehearing Thermoid Suit

Rehearing on the suit of the Thermoid Rubber Co., Trenton, N. J., vs. the Bank of Greenwood and J. C. Self for the recovery of $50,678 alleged damages and costs recently opened in Federal Court of Greenville, S. C. before Judge E. Y. Webb. The suit, which was heard several months ago in Federal Court, carried to the Circuit Court of Appeals and sent back to Federal Court for a rehearing arose from alleged false statements given the plaintiff by the defendants concerning the financial standing of the Owen Tire & Rubber Co., Greenwood, S. C., now bankrupt.

The plaintiff alleges that $50,678 in merchandise was shipped the rubber company on the strength of the defendants' statements and that the company went bankrupt shortly afterward.

May Use Painesville Plant

Officials of the Aero Rubber & Tire Co., Wingham, Canada, are negotiating for the factory of the old Painesville Tire & Rubber Co., north of the New York Central tracks, Painesville, Ohio. If the Aero company took the factory, it would employ over 100 persons.

Patents New Process

Charles H. Dennison, Quincy, Mass., inventor of a process for superficially-finishing rubber, recently patented in the U. S. Patent Office under No. 1,532,234, has assigned the patent to the American Rubber Co., Quincy, Mass. The patent includes the method of changing the surface characteristics of a rubber containing material by superficially hardening it by treatment with bromine, by both superficially treating it with bromine and vulcanizing it, and the product produced by these processes.

E-Z Rubber Formed

The E-Z Rubber Products Co., Cleveland, Ohio, was recently incorporated with an authorized capital of $10,000. Incorporators are Howard L. Barris, John A. Elden, Carl F. Walter, M. H. Burns and F. W. McLean.

Golf Ball Patented

John R. Gammeter, of the B. F. Goodrich Co., was recently granted U. S. Patent No. 1,534,104 on a golf ball and the method of making it. He has assigned the patent to the Goodrich company. The method comprises producing a frozen pellet of normally mobile material, enclosing this material, while frozen, in an imperforate, vulcanizable-rubber envelope and vulcanizing. The material is again frozen and additional material is applied to the envelope.

"Radi-Kushon" Registered

The Taunton Rubber Co., Taunton, Mass., recently registered in the U. S. Patent Office the trade-mark "Radi-Kushon" under Ser. No. 210,324. The name is used on rubber supporting foot pads for cabinets and other articles.

Paramount Organized

The Paramount International Rubber Company, Ltd., has been formed and will operate a factory at Farnham, Que., manufacturing under the Paramount vacuum process, invented nine years ago by Fred. T. Roberts, president of the new organization. The process is a revolutionary improvement in manufacturing molded hollow rubber goods and is being utilized on a royalty basis by a number of United States manufacturers.

Sterling Plant Damaged

Fire originating in the curing room at the factory of the Sterling Rubber Co., on Waterloo Ave., Guelph, Ont., recently caused damage estimated at $7,000. The blaze spread with such rapidity that the firemen had difficulty in confining the fire to one department. As a result of the damage done the factory will be handicapped for a week or ten days.

Fisk Assigned Process

Arthur A. Frank, inventor of a process of molding pneumatic casings recently granted U. S. Patent No. 1,534,777, has assigned the patent to the Fisk Rubber Co., Chicopee Falls, Mass. The process consists in building the casing upon a core with the aid of core pads, removing the pads, engaging the beads with bead rings, forcing the bead rings in against the core to stretch the casing in the direction of the cross-sectional periphery, and then full-molding the sidewall and tread portions by mold sections.

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Lewis Dewart Apsley

Supplementing the announcement of the death of L. D. Apsley in our April 25 issue, we are pleased to publish the following complete obituary which was received from Alder Strong, treasurer of the Firestone-Apsley Rubber Co.:

Ex-Congressman L. D. Apsley, president of the Firestone-Apsley Rubber Co., Hudson, Mass., died Saturday April 11, at Colon, Panama. Mr. Apsley, accompanied by his wife, was on his annual Southern trip.

He was born in Northumberland, Pa., Sept. 29, 1852. He started his business career at the age of 16 as a traveling salesman, and then entered the employ of John Wanamaker in the Philadelphia store in 1876, as assistant superintendent of the boot, shoe and rubber goods department. Later he sold rubber clothing for a Boston house for a period of years. In 1885 he organized the Gossamer Rubber Co., a partnership with J. H. Coffin of Boston. He bought a small rubber fabric manufacturing plant in Hudson, which in 1892 became the Apsley Rubber Co. In 1900, he added the manufacture of rubber boots and shoes.

Merged in 1920

In 1920, the Apsley interests were merged with those of the Firestone Tire and Rubber Co. of Akron, Ohio, under the name of the Firestone-Apsley Rubber Co., and Mr. Apsley was the president of this company until his death.

He was a Republican in politics, and began his political career in 1892, going to Congress for the first time contemporaneously with Samuel W. McCall, who later became Governor of Massachusetts. He was a member of the 53rd and 54th Congress, and served on committees on Agriculture, Pensions and Labor. In 1894, he was chosen Vice-Chairman of the Republican Congressional Committee, and, with Chairman Joseph W. Babcock, two years later, conducted the successful campaign which elected William McKinley President. With Congressman McCall, Mr. Apsley visited the Pacific Coast, and their joint efforts were largely instrumental in lining up California and Oregon for sound money. Following the 1896 campaign, Mr. Apsley retired from public life, where he had made a notable record as a practical legislator, and devoted himself to his business in which he was always a strong champion of labor.

Mr. Apsley was a Unitarian, a Mason, Odd Fellow, Knight of Pythias, Elk, Shriner, a member of the Grange, and an honorary member of the Rotary Club. He was an enthusiastic golfer and was interested in other sports. He had long been a member of the Boston Chamber of Commerce, was a past President of the Hudson Board of Trade, Director of the Hudson National Bank, and was a former President of the Rubber Club of America. Numbered among his friends were many men prominent in the affairs of the nation, including Presidents William McKinley, Theodore Roosevelt and Calvin Coolidge.

He is survived by his widow, whose maiden name was Abigail Forber, and who was the widow of Victor Black, a grand-nephew, Harriman Apsley Reardon, of Hudson, and a grand-niece, Mrs. Harold Lacy, of Philadelphia.

Novel Tire Patented

Thomas A. Dunn, Jamaica, Iowa, was recently granted U. S. Patent No. 1,534,365 on a combined cushion and pneumatic tire. The tire comprises a casing formed with an integral, circumferentially extending cushion member on the inner periphery of its tread portion. The cushion member being substantially circular in cross-section, subtending an arc of not less than 180 degrees and of sufficient diameter that it extends substantially one-half the distance from the periphery of the casing to the rim portion thereof when in normal condition, thereby producing annular grooves between the cushion member and the opposite side walls of the casing. These grooves are V-shaped in cross-section when the tire is inflated and do not materially increase the normal thickness of the casing at opposite sides of the cushion.

A. P. Cobb Honored

A. P. Cobb, vice-president of The New Jersey Zinc Co., New York, was elected President of The American Zinc Institute for the coming year at the annual meeting in St. Louis the last week in April. Mr. Cobb has been prominent in the affairs of the Zinc Institute since its formation, having filled until the recent election the position of vice-president and chairman of the executive committee.

Dayton Leases Branch

The Dayton Rubber Mfg. Co., Dayton, Ohio, has leased floor space in the Central Manufacturing District from the Tooker Storage & Forwarding Co., at 3615 Iron St., Chicago, Ill. The company makes Dayton Thorobred automobile tires, and has seven branches. C. F. Faro is Chicago branch manager.

Lease Corrugated Plant

The factory of the Corrugated Rubber Co. in Violet Ave., Poughkeepsie, N. Y., has been leased for two years by the Barbarino Motor Car Corp. for the manufacture of taxicabs. The factory was built three years ago and was turned over to a holding company when the Corrugated Rubber Co. got in financial difficulties.

Banning May Move Mills

The Banning Cotton Mills, Banning, Ga., manufacurers of tire fabrics, may locate in Ardmore, Okla., according to George Beveridge, president, who recently returned from that city. A tire plant may be operated in conjunction with the cotton mill, he intimated.

Rubber Shares Unprofitable

Once again London stockbrokers are advising their clients to buy rubber estate shares. English investors, however, are still very undecided regarding the position of the market for such securities. Rubber shares are widely held in the United Kingdom, and investors during recent years have been subject to much anxiety and have been faced with much capital depreciation in the value of their securities. Lately there has been a very appreciable recovery, but, despite this, many important and reliable concerns are today recommending a fresh purchase of rubber shares. The position of the market for the commodity is being pointed to as a "bull" factor, and it is believed that a still higher range of prices will be seen for these shares.

Most of the financial papers view their purchase with scepticism. An important question regarding any share, they point out, is the return which it affords to the holder. Opinions differ as to just what constitutes a fair return on rubber shares. An intending investor in South African gold shares of a reliable type requires some ten per cent on his money at least. On tea shares 10 per cent is also looked for as the minimum return. On home industrial securities a buyer is frequently satisfied with a much lower yield, some even of 5 per cent. In which category should rubber shares be placed ?

The rubber producing industry is subject to wide and frequent fluctuations in profits, and even at the present moment is in an artificial state owing to the official control of production. In the circumstances financial experts think it would be fair to ask for 8 per cent on a good class rubber share. With this view a fruitless search may be made for reliable shares giving anything approaching this yield. The return available on rubber shares on the basis of last year's dividends is considerably below 8 per cent. The highest yield on good shares last year was in the neighborhood of 6½ per cent, while the average yield was between 4 and 5 per cent. If 8 per cent is accepted as a fair return on rubber shares present prices, on the basis of recent earnings, appear too high. Even in view of the possibility that, owing to the recovery in the price of the commodity, dividends for the current year's working may be increased by 50 per cent, present prices seem to be fully discounting such expectations.

Hood Assigned Mold

Joseph E. Perrault, recently granted U. S. Patent No. 1,534,409 on a mold for making hard-rubber containers, has assigned the patent to the Hood Rubber Co., Watertown, Mass. The mold has a bottom plate with flanges along two of its opposite sides, a removable bottom mold face member carried by the bottom plate and of less width than the distance between the flanges. Removable plates at the sides with their lower ends seated on grooves and end plates adapted to rest upon the bottom plate between the side plates and means for drawing the plates toward each other are provided.

EXPORTS FROM MALAYA SHOW LARGE INCREASE

(Special to THE RUBBER AGE*)*

Anticipations that large shipments of rubber had been engaged from the East for America have been confirmed by the statistics of exports for March from British Malaya. They are reproduced in the following comparison:—

	1924		1925	
	Gross exports Tons	Foreign imports Tons	Gross exports Tons	Foreign imports Tons
January	23,844	8,867	19,183	10,132
February	19,395	7,440	21,662	10,071
March	22,294	8,269	26,836	13,399
	65,533	24,576	67,641	33,602

Of the month's gross exports, amounting to 26,836 tons, no less than 20,716 tons was destined for America, the quantity being some 5,500 tons in excess of that sent the previous month. The United Kingdom received 2,400 tons. The heavy shipments are believed to have come largely out of dealers' stocks in Singapore, which are now estimated at 10,000 tons, against 16,000 tons three months ago. Re-exports were also returned at a higher figure, and the fact that this total included no less than 10,962 tons of wet native rubber has led to the suggestion that smuggling has increased.

March exports were the highest for many months, and about 85 per cent of the foreign imports for the month represented native rubber. The foreign imports have now reached 10,000 tons in four consecutive months, the March figure being a record. It must be remembered that about 22½ per cent of the native rubber imports represents moisture.

The reserve stock of crude rubber in London has now dwindled to 15,000 tons —the lowest amount for several years— and considerably increased imports will be necessary if the diminution is to be stopped.

COURT HOLDS HEARING ON GILLETT REORGANIZATION

A hearing on the proposed reorganization of the Gillett Rubber Co., Eau Claire, Wis., which has been operating under a receiver for the last three years, was held recently before Judge Claude Z. Luse in Federal Court. Although a decision by the Court was deferred, it was indicated that all persons not appearing in opposition to the reorganization plan are permanently barred from complaint.

The company, against which claims aggregating nearly $1,500,000 are outstanding, was delivered to Frank C. Herman, as receiver in the spring of 1922. Since that time, he declared, the factory has been operating on a profitable basis. Net profits during 1924 totaled $400,000.

UNITED CARBON CO. TO OFFER MORTGAGE BONDS

The United Carbon Co., a Delaware corporation, plans to acquire the carbon black and gasoline producing plants and business of fifteen companies engaged in the manufacture of carbon black and gasoline in Louisiana, West Virginia and Kentucky, it was announced recently by Peabody, Houghteling & Co., Inc., New York, who will shortly offer an issue of United Carbon Company first mortgage 7 per cent 6-year sinking fund gold bonds.

The United Carbon Company will acquire from the predecessor companies and operate thirty-three plants having a daily capacity of over 183,000 pounds, and in connection therewith, nine plants for the extraction of gasoline from natural gas. These plants last year produced 44,932,173 pounds of carbon black and 5,465,529 gallons of gasoline. The total acreage to be controlled by the company is approximately 113,787 acres. The company will have nearly 200 producing wells in Louisiana, Kentucky and West Virginia, with a present open flow capacity of about 800,000,000 cubic feet of natural gas per day.

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Dealers' Stocks of Tires on April 1

32,592 Dealers, of Whom 9,745 Carry Balloons, Send Reports to Department of Commerce in Second Survey

MARKING a continuation of its program of compiling information about the domestic distribution of important commodities, the Department of Commerce has made its second semi-annual survey of the stocks of automobile tires and inner tubes held by dealers in the United States. This survey was rendered possible through the cooperation of tire dealers who were asked to report on individual forms the number of tires and tubes held by them on April 1, 1925. Information from nearly 25,000 reports which had reached the Department by April 10, was compiled by the Rubber Division in the form of a preliminary statement which was issued as Rubber Division Special Circular No. 845, on April 14, 1925.

Individual returns from 32,592 dealers having automobile casings on hand were used in the final compilation; of these 9,745 dealers reported certain stocks of balloon casings for 20", 21", and 22" wheels. Certain national mail order houses which reported stocks in April have not been included in this compilation as it would prevent accurate comparison with the October survey in which such stocks were not reported. The statistics for April 1, may be compared with the previous official compilation of Oct. 1, 1924, as follows:

Dealers' Stocks of Automobile Tires

	April 1, 1925			Oct. 1, 1924		
	Number		Average	Number		Average
Total Casings	2,026,356	32,592	62.2	1,402,879	26,161	53.6
Balloon Casings	144,433	9,745	14.8	*135,366	*8,305	*16.3
Inner Tubes	3,317,104	32,477	102.1	2,197,553	27,480	79.9
Solid & Cushion Tires	47,958	2,381	20.1	54,558	†	†

†—Number of dealers reporting solid and cushion tires in October not available.

*—Balloon casings, figure for October included semi-balloons; for April the balloon casings include only those for 20", 21", and 22" wheels.

The increase shown above in the average number of casings and tubes per dealer is in line with the natural seasonal trend. The increase in stocks must also be discounted by the fact that a higher percentage of dealers with large stocks reported in April than in October, as shown by the following analysis of reports received on automobile casings in the two surveys.

Number of Dealers According to Volume of Stock

	Per Cent of Total Dealers Reporting	
	April 1, 1925	Oct. 1, 1924
Less than 10 casings	17.62	23.19
From 10 to 25 Casings	28.48	32.11
" 26 to 50 "	23.33	22.65
" 51 to 100 "	17.46	13.70
" 101 to 200 "	8.60	5.49
" 201 to 300 "	2.11	1.44
" 301 to 400 "	.88	.52
" 401 to 1000 "	1.10	.64
Above 1,000 Casings	.42	.26
	100.00	100.00

The two percentage columns are not exactly comparable owing to the fact that balloon tires were not included in the Oct. 1 compilation. That omission, however, would not cause a variation of more than 2 per cent in the number of dealers reporting less than 51 casings in October and the decreased number of reports from small dealers in April is therefore apparent.

Representative rubber trade experts have stated that the increase in average stock per dealer in April as compared with October is a reflection of the natural seasonal trend of the trade in connection with the effect of the spring dating system. Dealers would normally carry heavier stocks on April 1 than on Oct. 1

An unofficial compilation as of April 1, 1924, not made by this Department, showed stocks of 1,648,993 automobile casings on hand held by 17,797 dealers, an average of 92.6 casings per dealer, as compared to 62.2 casings per dealer on April 1, 1925. The consensus of opinion of representative rubber trade experts is that there are about 100,000 tire dealers in the United States.

The existence of larger present stocks in the hands of manufacturers than in April, 1924, must be considered in connection with the decreased stocks in the hands of dealers. The following statistics were prepared from reports of manufacturers by the Rubber Association of America, Inc., which estimates the statistics to represent seventy-five per cent of the tire manufacturing industry:

Manufacturers Stocks of Tires

	Automobile Casings	Inner Tubes
March 31, 1924	5,763,084	8,157,704
Sept. 30, 1924	4,524,405	6,038,868
*March 31, 1925	7,072,853	10,836,359

*Preliminary statistics for March 31, 1925; final statistics not available.

Considering these statistics as representative of 75 per cent of the industry, manufacturers' stocks on March 31, 1925, were about 1,750,000 casings and 3,570,000 inner tubes larger than on March 31, 1924.

A comparison of the average total casings per dealer with the average inner tubes per dealer shows that on April 1, the average dealer was carrying 1.64 tubes for each casing, as compared to 1.49 tubes for each casing last October. Individual dealers might find it worth while to compare their own stocks with this average and then see how the ratio holds in the total returns from dealers in their States, shown in the report by States in the table on page 93, which has been arranged according to the size of average stocks of casings per dealer for each State on April 1, beginning with those States having the lowest average stocks. A comparison of the results of the April and October surveys as shown in this table indicates that dealers in certain States, including Massachusetts, New York, Oregon, Alabama, Texas, Florida, Illinois, California, Delaware, Tennessee, Nebraska, Ohio, and the District of Columbia, mostly States with a relatively high city population, and also high per capita car registration, commonly carry much heavier average stocks than dealers in other States. This is due largely to the fact that a high percentage of stock was reported by dealers with over 1000 casings in stock for several of these States, as shown on page 94.

Average Stocks

Tire manufacturers interested in seeing which States had the largest increase in average stocks per dealer in April as compared to October should examine the table on page 93, where States have been arranged to show the increase in average stocks. Averages for October were figured on high pressure tires only, so that the comparison is not strictly accurate, though it is close enough for practical use. Average stocks of casings appear to be lower in April than in October for Maryland, California, and Missouri. Following these three are twelve States with reported average stocks less than 8 casings per dealer higher in April than in October, a relatively low increase for such States as Indiana, Nebraska, Washington, and Iowa particularly. The States further down the column show heavier increases in average stocks; fourteen States, including practically all of New England, beside New York, Michigan, Wisconsin, Wyoming, and Minnesota, appear to have added materially to their stocks for the beginning of the season. Examination of the table on page 93 will also show the increase in inner tubes per dealer for each State, making possible an analysis to determine those States with low stocks for April as compared to October. Four States, (Utah, Nevada, North Carolina, and California) appear to have less inner tubes per dealer in April than in October. Eleven States, (South Carolina, Mississippi, Maryland, Virginia, Louisiana, Washington, Georgia, Tennessee, Florida, Texas, and Alabama), have not more than 5 more inner tubes per dealer in April than were reported for last October, and two more States, Idaho and Iowa, have less than 10 more tubes per dealer in April.

On page 93 will be found a detailed statement showing by states in alpha-

betical order the total stocks of automobile casings, the stocks of balloon casings for 20″, 21″ and 22″ wheels, and the stocks of inner tubes, in the hands of dealers reporting on April 1, 1925. The number of dealers reporting each item from each State is shown, and the average number of casings and inner tubes per dealer, shown on this page, is included again for convenient reference.

Average Stocks of Casings and Tubes per Dealer by States Arranged According to Size of Average Stocks of Casings on April 1, 1925

Rank	State	Average Casings per Dealer Apr. 1, 1925	Oct. 1, 1924	Average Tubes per Dealer Apr. 1, 1925	Oct. 1, 1924
1.	S. C.	37.7	31.5	67.8	63.8
2.	N. D.	39.7	23.1	64.3	39.1
3.	Miss.	41.0	37.5	73.0	67.0
4.	Md.	43.8	60.8	70.5	69.2
5.	Utah	44.0	39.7	71.5	76.4
6.	Nev.	44.6	42.4	70.5	72.8
7.	N. M.	44.6	33.5	81.6	60.1
8.	Vt.	46.3	27.1	76.8	49.3
9.	Idaho	46.5	37.9	71.7	64.3
10.	Ark.	46.9	33.7	78.8	54.9
11.	Va.	48.2	38.0	86.5	83.5
12.	La.	49.5	49.2	87.1	83.9
13.	Ariz.	49.6	34.9	85.4	73.2
14.	Wash.	49.7	42.8	70.1	68.4
15.	Me.	50.5	26.9	72.9	42.4
16.	Ga.	53.2	49.0	95.0	85.5
17.	N. C.	53.7	45.7	90.5	106.5
18.	Iowa	54.0	47.1	82.8	73.0
19.	Wyo.	54.6	32.9	90.5	55.2
20.	Pa.	55.7	46.6	82.1	71.3
21.	S. D.	56.0	32.1	105.0	53.2
22.	Ind.	56.4	52.2	104.4	76.0
23.	Mont.	57.0	39.6	91.8	62.8
24.	N. H.	57.1	31.0	88.9	62.2
25.	Col.	58.1	51.1	91.7	72.9
26.	Mo.	58.4	66.3	99.5	81.9
27.	N. J.	59.3	39.9	111.5	80.1
28.	Kan.	60.0	44.6	94.5	67.8
29.	Minn.	61.4	39.7	97.9	66.9
30.	Ohio	62.7	46.4	92.8	79.2
31.	Wis.	62.7	37.9	93.4	60.9
32.	W. Va.	62.9	34.1	91.8	68.3
33.	Neb.	64.5	60.3	98.1	85.1
34.	Okla.	65.2	42.6	121.3	89.1
35.	Tenn.	67.4	59.9	104.2	103.8
36.	Del.	69.0	52.8	132.0	81.1
37.	Ky.	69.6	46.4	167.4	73.6
38.	Calif.	70.1	78.5	109.5	110.0
39.	Ill.	70.9	55.7	135.6	85.7
40.	Mich.	71.7	44.0	122.7	69.3
41.	Fla.	72.2	56.4	103.9	102.3
42.	Texas	74.3	62.2	117.3	112.3
43.	Ala.	75.6	55.8	125.9	122.3
44.	Conn.	75.9	42.8	122.8	67.9
45.	Ore.	76.7	66.1	108.4	82.5
46.	N. Y.	82.4	56.6	138.7	96.1
47.	Mass.	85.1	60.1	147.5	98.1
48.	R. I.	88.1	40.8	115.6	62.3
49.	D. C.	95.0	48.8	182.9	123.4
	Average for all dealers	62.2	49.7	102.1	79.9

Average Stocks of Casings and Tubes per Dealer for States, Arranged According to Increase in Average Stocks of Casings on April 1, 1925, Compared to October 1, 1924

	States:	Average Casings per Dealer Apr. 1 1925	Oct. 1, 1924	Increase (+) or decrease (—) in April	Average Tubes per Dealer Apr. 1, 1925	Oct. 1, 1924	Increase (+) or decrease (—) in April
1.	Md.	43.8	60.8	—17.0	70.5	69.2	+ 1.3
2.	Calif.	70.1	78.5	— 8.4	109.5	110.0	— 0.5
3.	Mo.	58.4	66.3	— 7.9	99.5	81.9	+17.6
4.	La.	49.5	49.2	+ 0.3	87.1	83.9	+ 3.2
5.	Nev.	44.6	42.4	+ 2.2	70.5	72.8	— 2.3
6.	Miss.	41.0	37.5	+ 3.5	73.0	67.0	+ 6.0
7.	Ga.	53.2	49.0	+ 4.2	95.0	85.5	+ 9.5
8.	Ind.	56.4	52.2	+ 4.2	104.4	76.0	+28.4
9.	Neb.	64.5	60.3	+ 4.2	98.1	85.1	+13.0
10.	Utah	44.0	39.7	+ 4.3	71.5	76.4	— 4.9
11.	S. C.	37.7	31.5	+ 6.2	67.8	63.8	+ 4.0
12.	Iowa	54.0	47.1	+ 6.9	82.8	73.0	+ 9.8
13.	Wash.	49.7	42.8	+ 6.9	70.1	68.4	+ 1.7
14.	Colo.	58.1	51.1	+ 7.0	91.7	72.9	+18.8
15.	Tenn.	67.4	59.9	+ 7.5	104.2	103.8	+ 0.4
16.	N. C.	53.7	45.7	+ 8.0	90.5	106.5	—16.0
17.	Idaho	46.5	37.9	+ 8.6	71.7	64.3	+ 7.4
18.	Pa.	55.7	46.6	+ 9.1	82.1	71.3	+10.8
19.	Va.	48.2	38.0	+10.2	86.5	83.5	+ 3.0
20.	Ore.	76.7	66.1	+10.6	108.4	82.5	+25.9
21.	N. M.	44.6	33.5	+11.1	81.6	60.1	+21.5
22.	Texas	74.3	62.2	+12.1	117.3	112.3	+ 5.0
23.	Ark.	46.9	33.7	+13.2	78.8	54.9	+23.9
24.	Ariz.	49.6	34.9	+14.7	85.4	73.2	+12.2
25.	Ill.	70.9	55.7	+15.2	135.6	85.7	+49.9
26.	Kan.	60.0	44.6	+15.4	94.5	67.8	+26.7
27.	Fla.	72.2	56.4	+15.8	103.9	102.3	+ 1.6
28.	Del.	69.0	52.8	+16.2	132.0	81.1	+50.9
29.	Ohio	62.7	46.4	+16.3	92.8	79.2	+13.6
30.	N. D.	39.7	23.1	+16.6	64.3	39.1	+25.2
31.	Mont.	57.0	39.6	+17.4	91.8	62.8	+29.0
32.	Vt.	46.3	27.1	+19.2	76.8	49.3	+27.5
33.	N. J.	59.3	39.9	+19.4	111.5	80.1	+31.4
34.	Ala.	75.6	55.8	+19.8	125.9	122.3	+ 3.6
35.	Minn.	61.4	39.7	+21.7	97.9	66.9	+31.0
36.	Wyo.	54.6	32.9	+21.7	90.5	55.2	+35.3
37.	Okla.	65.2	42.6	+22.6	121.3	89.1	+32.2
38.	Ky.	69.6	46.4	+23.2	167.4	73.6	+93.8
39.	Me.	50.5	26.9	+23.6	72.9	42.4	+30.5
40.	S. D.	56.0	32.1	+23.9	105.0	53.2	+51.8
41.	Wis.	62.7	37.9	+24.8	93.4	60.9	+32.5
42.	Mass.	85.1	60.1	+25.0	147.5	98.1	+49.4
43.	N. Y.	82.4	56.6	+25.8	138.7	96.1	+42.6
44.	N. H.	57.1	31.0	+26.1	88.9	62.2	+26.7
45.	Mich.	71.7	44.0	+27.7	122.7	69.3	+53.4
46.	W. V.	62.9	34.1	+28.8	91.8	68.3	+23.5
47.	Conn.	75.9	42.8	+33.1	122.8	67.9	+54.9
48.	D. C.	95.0	48.8	+46.2	182.9	123.4	+59.5
49.	R. I.	88.1	40.8	+47.3	115.6	62.3	+53.3

Stocks of Automobile Tires in Hands of Dealers, April 1, 1925

	Total Tires: No. of Dealers Reporting	No. of Tires on Hand	Average No. per Dealer	Balloon Tires: No. of Dealers Reporting	No. of Tires on hand
Ala.	312	23,578	75.6	81	1,452
Ariz.	186	9,223	49.6	57	508
Ark.	426	20,003	46.9	87	1,038
Calif.	1,948	136,575	70.1	609	11,286
Colo.	423	24,589	58.1	122	2,029
Conn.	298	22,621	75.9	95	1,370
Del.	64	4,417	69.0	18	241
D. C.	52	4,940	95.0	19	469
Fla.	321	23,166	72.2	97	2,164
Ga.	295	15,684	53.2	67	838
Idaho	247	11,486	46.5	91	1,033
Ill.	1,577	111,744	70.9	490	6,663
Ind.	1,261	71,157	56.4	380	4,280
Iowa	1,130	60,996	54.0	346	3,313
Kan.	894	53,638	60.0	337	4,725
Ky.	447	31,123	69.6	101	2,230
La.	354	17,533	49.5	68	752
Maine	518	26,145	50.5	98	1,608
Md.	375	16,412	43.8	73	868
Mass.	883	75,129	85.1	306	5,557
Mich.	1,170	83,833	71.7	442	14,404
Minn.	974	59,835	61.4	311	3,415
Miss.	306	12,559	41.0	81	612
Mo.	1,221	71,274	58.4	316	3,730
Mont.	303	17,268	57.0	116	1,746
Neb.	569	36,728	64.5	202	2,854
Nev.	65	2,902	44.6	20	162
N. H.	200	11,423	57.1	62	849
N. J.	609	36,122	59.3	188	2,564
N. M.	131	5,842	44.6	34	328
N. Y.	1,919	158,090	82.4	659	11,383
N. C.	560	30,067	53.7	143	1,497
N. D.	416	16,498	39.7	123	985
Ohio	2,017	126,473	62.7	612	7,501
Okla.	624	40,668	65.2	221	2,881
Ore.	435	33,382	76.7	143	2,180
Pa.	2,653	147,810	55.7	771	10,807
R. I.	131	11,546	88.1	26	545
S. C.	247	9,318	37.7	61	478
S. D.	395	22,127	56.0	119	2,173
Tenn.	424	28,584	67.4	73	1,004
Texas	1,147	85,178	74.3	356	5,487
Utah	190	8,363	44.0	52	612
Vt.	190	8,796	46.3	44	767
Va.	700	33,730	48.2	124	1,510
Wash.	703	34,918	49.7	208	3,307
W. Va.	457	28,770	62.9	103	1,246
Wis.	1,066	66,888	62.7	369	4,261
Wyo.	128	6,988	54.6	49	600
Unallocated	631	30,217	47.9	175	2,121
Total	32,592	2,026,356	62.2	9,745	144,433

	Inner Tubes: No. of Dealers Reporting	No. of Tubes on Hand	Average No. per Dealer
Alabama	317	39,914	125.9
Arizona	181	15,465	85.4
Arkansas	444	34,977	78.8
California	1,923	210,712	109.5
Colorado	420	38,524	91.7
Connecticut	296	36,349	122.8
Delaware	61	8,053	132.0
Dis. Columbia	50	9,147	182.9
Florida	329	34,176	103.9
Georgia	313	29,735	95.0
Idaho	245	17,556	71.7
Illinois	1,558	211,289	135.6
Indiana	1,268	132,421	104.4
Iowa	1,102	91,209	82.8
Kansas	875	82,711	94.5
Kentucky	459	76,835	167.4
Louisiana	360	31,347	87.1
Maine	521	37,956	72.9
Maryland	379	26,706	70.5
Massachusetts	870	128,314	147.5
Michigan	1,149	140,959	122.7
Minnesota	970	94,790	97.9
Mississippi	314	22,918	73.0
Missouri	1,227	122,063	99.5
Montana	301	27,626	91.8
Nebraska	567	55,645	98.1
Nevada	65	4,584	70.5
New Hampshire	205	18,223	88.9
New Jersey	600	66,909	111.5
New Mexico	130	10,605	81.6
New York	1,883	261,206	138.7
No. Carolina	572	51,793	90.5
No. Dakota	419	26,959	64.3
Ohio	2,006	186,144	92.8
Oklahoma	637	77,247	121.3
Oregon	431	46,705	108.4
Pennsylvania	2,622	215,389	82.1
Rhode Island	120	13,867	115.6
So. Carolina	253	17,159	67.8
So. Dakota	376	39,498	105.0
Tennessee	439	45,753	104.2
Texas	1,155	135,566	117.3
Utah	185	13,220	71.5
Vermont	178	13,680	76.8
Virginia	721	62,370	86.5
Washington	698	48,938	70.1
West Virginia	463	42,463	91.8
Wisconsin	1,074	100,334	93.4
Wyoming	125	11,309	90.5
Unallocated	621	49,786	80.2
Total	32,477	3,317,104	102.1

Number of Dealers According to Volume of Stock

The following analysis of the April 1 reports received on automobile casings shows that 17.62 per cent of the 32,592 dealers reported stocks of less than 10 tires and 51.81 per cent had stocks of from 10 to 50 tires. For October 1924, (see table on page 95), 23.19 per cent of the 25,497 dealers reporting high pressure casings had stocks of less than 10 tires and 54.76 per cent had stocks of from 10 to 50 tires. The dealers with stocks of less than 51 tires reported only 23.05 per cent of the total casings in April as compared to 29.9 per cent of the total casings last October.

The increase in average number of casings per dealer in April as compared to October was the result chiefly of the higher percentage of reports received from dealers with stocks of over 50 tires, as shown in the table at bottom of page 94, but it is partly the result of larger stocks per dealer reporting from 101 to 1,000 casings, 4,136 dealers in this group in April having an average of 211.5 tires each, as compared to 206.5 tires each for 2,059 dealers in this group in October.

A higher percentage of dealers (0.42 per cent) reported over 1,000 casings on hand for April 1 than for Oct. 1, (0.26 per cent), but their share (13.79 per cent) of the total stocks was lower in April than in October (16.8 per cent), owing to the lower average number of tires per dealer in this group, 2036.2 in

April as compared to 3222.1 in October. It would seem that these large tire dealers in general held rather low stocks on April 1, 1925.

Dealers According to Volume of Stock, April 1, 1925

	No. of Dealers	Per cent of Total	No. of Casings	Per cent of Total	Average per Dealer
Under 10	5,741	17.62	29,378	1.46	5.1
10-25	9,281	28.48	157,025	7.74	16.9
26-50	7,605	23.33	280,226	13.85	36.8
51-100	5,692	17.46	406,123	20.08	71.3
101-200	2,802	8.60	390,165	19.28	139.2
201-300	689	2.11	169,124	8.32	245.5
301-400	288	0.88	101,121	4.94	351.1
401-1000	357	1.10	214,231	10.54	600.1
Over 1000	137	0.42	278,963	13.79	2,036.2
	32,592	100.00	2,026,356	100.00	62.2

The analysis by States shown on this page indicates the extent to which reports from indvidual large dealers have affected the "average casings per dealer" figures shown for individual States in tables on page 93. This effect is particularly marked in Massachusetts, Rhode Island, Oregon, Florida, Tennessee, and Kentucky, and is noteworthy in California, New York, Michigan, Illinois, and Texas, all of these States having high "average casings per dealer" figures. In the following tables States are arranged alphabetically. The first number in each case refers to the number of dealers reporting stocks within the amounts specified; the second number refers to the aggregate number of tires held by such dealers.

Group Analysis of Dealers' Stocks of Casings, April 1, 1925

	Under 10 Casings		10-25 Casings	
	Dealers	Units	Dealers	Units
Alabama	60	298	87	1,400
Arizona	40	171	44	768
Arkansas	115	573	138	2,261
California	373	1,842	561	9,303
Colorado	96	484	120	1,910
Connecticut	48	248	71	1,204
Delaware	7	30	17	257
Dis. of Columbia	3	13	8	146
Florida	81	395	86	1,352
Georgia	61	332	92	1,513
Idaho	46	209	69	1,177
Illinois	258	1,382	426	7,290
Indiana	209	1,080	374	6,318
Iowa	150	793	347	5,997
Kansas	96	514	243	4,209
Kentucky	80	383	127	2,163
Louisiana	85	443	99	1,563
Maine	132	636	166	2,844
Maryland	93	481	111	1,862
Massachusetts	154	819	251	4,162
Michigan	177	968	322	5,584
Minnesota	152	764	262	4,561
Mississippi	72	373	86	1,418
Missouri	247	1,232	374	6,379
Montana	41	169	101	1,682
Nebraska	72	363	157	2,714
Nevada	11	49	15	248
New Hampshire	32	145	62	1,101
New Jersey	95	496	167	2,842
New Mexico	29	145	42	676
New York	261	1,337	493	8,312
No. Carolina	97	518	164	2,753
No. Dakota	59	296	127	2,195
Ohio	335	1,673	643	10,870
Oklahoma	99	482	173	3,022
Oregon	67	370	120	2,152
Pennsylvania	492	2,546	780	13,213
Rhode Island	38	199	21	367
So. Carolina	67	346	79	1,270
So. Dakota	54	285	121	1,966
Tennessee	118	577	120	1,911
Texas	180	1,025	279	4,753
Utah	37	205	66	1,156
Vermont	50	233	61	1,057
Virginia	171	888	201	3,400
Washington	125	635	227	3,821
West Virginia	90	433	127	2,118
Wisconsin	159	857	247	4,346
Wyoming	27	132	24	403
Unallocated	100	511	183	3,036
Total	5,741	29,378	9,281	157,025

	26-50 Casings		51-100 Casings	
	Dealers	Units	Dealers	Units
Alabama	73	2,593	44	3,175
Arizona	39	1,341	35	2,444
Arkansas	73	2,780	59	4,063
California	431	15,622	303	30,961
Colorado	94	3,539	62	4,510
Connecticut	68	2,527	50	3,753
Delaware	18	630	13	932
District of Columbia	11	423	17	1,248
Florida	62	2,226	52	3,648
Georgia	65	2,503	35	2,591
Idaho	59	2,200	49	3,552
Illinois	401	14,970	273	19,563
Indiana	284	10,381	235	16,869
Iowa	298	11,215	205	14,313
Kansas	264	9,847	182	13,058
Kentucky	114	4,235	69	4,882
Louisiana	78	2,934	50	3,481
Maine	104	4,007	63	4,607
Maryland	86	3,298	47	3,332
Massachusetts	163	5,996	162	11,383
Michigan	259	9,521	221	15,929
Minnesota	255	9,652	191	13,695
Mississippi	69	2,607	51	3,761
Missouri	234	8,748	216	14,462
Montana	67	2,501	50	3,530
Nebraska	152	5,766	105	7,449
Nevada	21	797	12	892
New Hampshire	49	2,026	35	2,497
New Jersey	147	5,532	120	8,327
New Mexico	25	958	18	1,449
New York	462	17,100	378	26,880
North Carolina	134	4,970	91	6,645
North Dakota	124	4,525	78	5,394
Ohio	444	16,436	349	25,160
Oklahoma	150	5,603	102	7,523
Oregon	104	3,830	82	5,817
Pennsylvania	634	23,082	455	32,693
Rhode Island	38	1,423	17	1,147
South Carolina	44	1,476	37	2,626
South Dakota	112	4,083	66	4,909
Tennessee	85	3,094	56	4,011
Texas	239	8,733	250	17,720
Utah	41	1,525	30	2,163
Vermont	41	1,531	20	1,390
Virginia	164	6,394	94	7,332
Washington	162	6,027	112	7,837
West Virginia	83	3,233	90	6,579
Wisconsin	287	10,735	222	16,044
Wyoming	33	1,227	24	1,731
Unallocated	161	3,824	115	8,166
Total	7,605	280,226	5,692	406,123

	101-200 Casings		201-300 Casings		301-400 Casings	
	Dirs.	Units	Dirs.	Units	Dirs.	Units
Ala.	23	3,300	7	1,820	7	2,474
Ariz.	24	3,397	3	775	1	327
Ark.	26	3,579	10	2,563	1	340
Calif.	180	25,460	40	10,028	21	7,506
Colo.	26	3,646	12	2,882	3	1,131
Conn.	38	5,211	13	3,266	3	1,075
Del.	3	452	3	664	2	702
D. C.	8	1,055	2	505	..	..
Fla.	20	2,774	9	2,157	4	1,347
Ga.	27	3,748	9	2,248	2	700
Idaho	19	2,481	2	499	1	398
Ill.	129	17,720	40	9,893	25	8,790
Ind.	106	14,617	24	5,724	12	4,219
Iowa	92	12,757	21	4,878	6	1,966
Kan.	80	10,866	13	3,142	5	1,791
Ky.	39	5,371	11	2,556	3	1,072
La.	34	4,623	3	696	1	389
Maine	33	4,752	12	2,906	4	1,476
Md.	27	3,787	5	1,222	4	1,413
Mass.	90	12,667	22	5,354	11	3,674
Mich.	126	17,608	34	7,950	14	4,978
Minn.	85	11,946	15	3,742	4	1,290
Miss.	24	3,167	2	431	1	400
Mo.	96	13,199	19	4,423	11	3,853
Mont.	29	4,281	8	2,065	5	1,739
Neb.	57	7,591	13	3,240	8	2,858
Nev.	6	916	..	....	..	....
N. H.	15	2,148	4	958	1	323
N. J.	48	6,965	15	3,724	7	2,413
N. M.	15	2,049	1	202	1	363
N. Y.	187	26,563	52	12,877	26	9,367
N. C.	50	6,661	15	3,966	5	1,605
N. D.	25	3,384	3	704	..	....
Ohio	150	20,953	40	9,939	20	6,985
Okla.	64	8,908	19	4,674	6	2,027
Ore.	37	5,286	10	2,500	7	2,349
Pa.	202	27,770	43	10,667	14	4,820
R. I.	7	1,082	3	690	3	1,162
S. C.	14	1,873	4	950	1	309
S. D.	28	3,798	8	1,974	3	1,165
Tenn.	30	4,092	6	1,445	3	1,090
Texas	131	18,258	42	10,344	9	3,057
Utah	12	1,766	2	479	1	400
Vt.	13	1,920	2	461	1	326
Va.	51	7,550	13	3,308	2	697
Wash.	59	7,965	11	2,945	1	381
W. Va.	44	6,237	12	2,786	3	1,134
Wis.	107	14,673	20	5,141	8	2,730
Wyo.	15	2,083	3	669	1	315
Unallocated	51	7,210	9	2,092	6	2,195
Total	2,802	390,165	689	169,124	288	101,121

	401-1000 Casings		Over 1000 Casings	
	Dirs.	Units	Dirs.	Units
Alabama	10	6,788	1	1,730
Arkansas	3	2,644	1	1,200
California	25	14,622	14	31,231
Colorado	9	4,887	1	1,600
Connecticut	6	4,124	1	1,213
Delaware	1	750	..	....
District of Columbia	3	1,550	..	....
Florida	4	2,712	3	6,555
Georgia	4	2,049	..	....
Idaho	2	970	..	....
Illinois	17	11,760	8	20,376
Indiana	15	8,374	2	3,575
Iowa	8	4,252	3	4,825
Kansas	9	5,728	2	4,483
Kentucky	1	450	3	10,011
Louisiana	2	1,028	2	2,376
Maine	1	460	3	4,457
Maryland	2	1,017	..	....
Massachusetts	18	11,418	12	19,656
Michigan	13	7,674	4	13,621
Minnesota	5	2,648	5	11,537
Mississippi	1	402	..	....
Missouri	18	10,042	6	8,936
Montana	2	1,301	..	....
Nebraska	3	2,322	2	4,425
New Hampshire	1	550	1	1,675
New Jersey	9	4,648	1	1,175
New York	46	26,527	14	29,127
North Carolina	3	1,731	1	1,218
Ohio	23	14,063	13	20,394
Oklahoma	9	4,591	2	3,838
Oregon	3	2,030	5	9,048
Pennsylvania	25	15,303	8	17,716
Rhode Island	2	1,241	2	4,235
South Carolina	1	468	..	....
South Dakota	1	423	2	3,524
Tennessee	2	1,525	4	10,839
Texas	15	9,687	2	11,601
Utah	1	669	..	....
Vermont	1	406	1	1,472
Virginia	2	1,542	2	2,619
Washington	4	2,254	2	3,053
West Virginia	6	3,550	2	2,700
Wisconsin	14	9,440	2	2,922
Wyoming	1	428	..	....
Unallocated	6	3,183	..	....
Total	357	214,231	137	278,963

Dealers Stocks of Solid and Cushion Tires

The number of dealers reporting stocks of solid or cushion tires on April 1, 1925, was 2,381, and the number of such tires reported on hand was 47,958, an average of 20.1 tires per dealer. For Oct. 1, 1924, 1,449 dealers reported stocks of solid tires to the number of 30,538, an average of 21.1 solids per dealer, and 1,415 dealers reported cushion tires to the number of 24,020 or 17.0 cushion tires per dealer.

Stocks of Solid and Cushion Tires, April 1, 1925

States	No. of Dealers	No. on Hand	States	No. of Dealers	No. on Hand
Ala.	41	545	Nev.	10	142
Ariz.	14	201	N. H.	7	75
Ark.	28	204	N. J.	48	1,461
Calif.	201	5,345	N. M.	7	36
Colo.	29	375	N. Y.	186	6,152
Conn.	31	781	N. C.	55	1,125
Del.	6	40	N. D.	17	289
D. C.	3	69	Ohio	146	1,957
Fla.	11	198	Okla.	42	547
Ga.	20	153	Ore.	33	1,107
Idaho	17	189	Pa.	231	4,820
Ill.	119	2,680	R. I.	4	107
Ind.	93	1,262	S. C.	18	464
Iowa	55	781	S. D.	25	239
Kan.	54	949	Tenn.	40	741
Ky.	28	451	Texas	75	1,022
La.	26	206	Utah	4	35
Maine	19	254	Vt.	4	69
Md.	24	540	Va.	54	859
Mass.	68	1,901	Wash.	45	758
Mich.	73	1,723	W. Va.	47	983
Minn.	48	625	Wis.	53	954
Miss.	20	140	Wyo.	7	57
Mo.	84	1,526	Unallocated	60	2,047
Mont.	16	181			
Neb.	35	593	Total	2,381	47,958

The following table contains summary figures prepared from the reports of 32,182 dealers who stated the number of makes of tires which they carry in stock as six or less. A comparison is made with the reports of 25,701 dealers who reported on this subject last October. The percentage of dealers reporting that they carry only one make in stock was 43.2 for 1925 as compared to 40.2 for October, 1924, and there is a decline in the percentage of dealers reporting two, three, four, five, and six makes in stock, respectively.

It would appear that the trend is increasingly toward specialization on a single make, which is quite in line with good merchandising policy, especially since most makes are produced in several qualities with different price levels. The gains to the dealer through specialization are (1) increased rate of turnover, due to greater concentration of sales effort on fewer items,(2) decreased capital investment in stock and decreased storage space required, (3) fresher stock with less deterioration, and (4) decreased handling and overhead expenses; all of these gains combined enable the dealer to do a greater volume of business on the same working capital and thus tend to increase profit. The manufacturer ordinarily gives more advertising and other support to the dealer specializing in his line. Unless the increased service of the dealer to the customer from carrying a diversified stock is financially profitable, the carrying of several makes is not economically justifiable. Nearly 80 per cent of the dealers reported less than three makes of tires in stock on April 1, indicating a relatively high degree of specialization.

Tables similar to the following summary for April may be prepared by interested parties for any State, by using the detailed statement on the succeeding page, where replies are shown for individual States.

Summary of Dealers Reports—Number of Makes of Tires Handled

	April 1, 1925		—Oct. 1, 1924—	
	No. of Dealers	Per cent of total	No. of Dealers	Per cent of total
One make in stock	13,902	43.2	10,338	40.2
Two makes in stock	11,675	36.3	9,564	37.2
Three makes in stock	4,509	14.0	3,911	15.2
Four makes in stock	1,401	4.3	1,262	4.9
Five makes in stock	478	1.5	450	1.8
Six makes in stock	217	0.7	176	0.7
	32.182	100.00	25,701	100.00

Dealers reporting automobile tires on hand were asked to indicate how many makes of tires were stocked. Replies were received from 32,973 dealers and have been tabulated as shown on the following page. The figures in each case indicate the number of dealers replying to this question.

Number of Makes of Tires Handled by Dealers in Each State

States	Total Replies	One Make	Two Makes	Three Makes	Four Makes	Five Makes	Six Makes	Over Six
Ala.	316	135	113	41	16	1	6	4
Ariz.	185	97	65	15	3	2	.	3
Ark.	440	199	152	49	18	8	2	12
Calif.	1,967	877	680	252	70	19	16	53
Colo.	423	183	150	49	20	5	4	12
Conn.	292	129	89	42	15	6	1	10
Del.	64	30	18	9	2	3	.	2
D. C.	52	18	16	7	4	2	3	2
Fla.	325	127	113	42	25	5	4	9
Ga.	306	125	108	42	14	5	6	6
Idaho	251	124	86	30	5	4	.	2
Ill.	1,589	668	580	210	64	19	14	34
Ind.	1,283	508	433	204	86	18	7	27
Iowa	1,149	516	419	144	32	9	4	25
Kan.	905	364	344	143	31	7	2	14
Ky.	453	176	152	84	27	7	2	5
La.	349	139	113	54	24	5	4	10
Me.	528	264	185	42	11	3	5	18
Md.	379	162	129	54	19	6	3	6
Mass.	895	384	306	111	35	14	6	39
Mich.	1,179	428	448	181	66	26	6	24
Minn.	984	435	391	102	20	7	3	26
Miss.	311	139	108	40	13	2	1	8
Mo.	1,257	469	438	218	69	24	9	30
Mont.	306	146	126	22	3	1	1	7
Neb.	570	234	221	81	20	5	.	9
Nev.	65	37	21	4	1	.	.	2
N. H.	211	84	88	23	7	1	.	8
N. J.	613	244	189	108	28	14	5	25
N. M.	133	58	45	19	5	2	.	4
N. Y.	1,955	806	617	291	94	52	24	71
N. C.	568	233	195	80	34	13	4	9
N. D.	426	196	159	51	11	4	1	4
Ohio	2,050	900	704	279	83	31	6	47
Okla.	639	273	224	98	22	10	2	10
Ore.	421	184	176	34	14	2	2	9
Pa.	2,603	988	933	396	135	47	25	79
R. I.	129	65	36	16	3	4	1	4
S. C.	249	123	81	28	9	5	.	3
S. D.	405	190	143	46	12	5	1	8
Tenn.	432	193	150	60	13	6	2	8
Tex.	1,163	452	407	183	64	23	10	24
Utah	190	82	64	30	4	3	3	4
Vt.	186	84	72	19	6	1	1	3
Va.	748	336	271	100	19	6	2	14
Wash.	706	319	263	78	23	11	3	9
W. Va.	469	193	181	64	19	2	3	7
Wis.	1,097	456	421	128	49	14	6	23
Wyo.	132	67	38	14	4	1	3	5
Unallocated	625	263	214	92	30	8	4	14
Total	32,973	13,902	11,675	4,509	1,401	470	217	791

Analysis of Tire Dealers by Types of Business

The following specific questions were asked of all dealers reporting:

1. Do tires and tubes constitute the major portion of your sales?
2. Do you vulcanize tires?
3. Do you sell automobiles?
4. Do you sell automobile accessories?
5. Do you sell gas?

A comparison of the total affirmative replies received in answer to these questions with the total number of reports received from all States, is shown below for April 1925, and October 1924.

	April 1, 1925		Oct. 1, 1924	
	Number of total	Per cent	Number of total	Per cent
Total reports received	34,022	100.0	27,480	100.0
Tires constitute major sales	6,089	17.9	4,824	17.5
Vulcanize tires	3,785	11.1	3,734	13.6
Sell automobiles	13,100	38.5	10,768	39.2
Sell automobile accessories	27,703	81.4	21,917	79.7
Sell gas	25,983	76.3	*21,555	*78.4

*For October, this question was "Do you sell gas or oil?"

It will be noted that the percentage of dealers reporting under each heading corresponds fairly closely for the two periods. It is believed that there are about 100,000 tire dealers in the United States, and accordingly about one-third of the total number reported in the April survey. Trade experts state that the number of tire vulcanizers in the United States is about 20,000 whereas the number of tire dealers who vulcanize tires, if computed from the April percentage on the basis of 100,000 tire dealers in the country, would be only 11,100, and from the October percentage 13,600. There are many vulcanizing shops which do not sell tires.

On this page the affirmative responses to the five questions stated above are shown for each State, as compiled from the 34,022 responses received in the survey of April 1, 1925.

Affirmative Responses by States to Miscellaneous Questions April 1, 1925

State:	Total Replies	Tires and Tubes Constit. Major Portion Sales	Vulcanize Tires	Sell Autos	Sell Auto Access.	Sell Gas
Ala.	326	47	27	97	279	246
Ariz.	189	24	21	74	161	163
Ark.	458	93	22	128	345	351
Calif.	2,041	378	462	634	1,556	1,441
Colo.	434	80	71	169	364	345
Conn.	308	47	41	100	271	257
Del.	66	7	4	25	58	52
D. C.	52	9	16	18	45	33
Fla.	333	65	28	97	251	257
Ga.	318	70	29	90	253	254
Idaho	256	41	26	122	216	225
Ill.	1,641	318	192	729	1,351	1,166
Ind.	1,324	262	143	458	1,095	953
Iowa	1,168	244	133	518	978	843
Kan.	915	160	116	413	783	676
Ky.	469	83	25	217	388	404
La.	369	44	29	108	284	282
Maine	546	109	39	191	429	464
Md.	393	66	26	133	309	305
Mass.	928	145	137	305	757	676
Mich.	1,206	231	175	479	982	857
Minn.	1,013	168	116	473	848	765
Miss.	325	58	10	102	254	262
Mo.	1,282	270	142	466	1,027	943
Mont.	316	39	30	132	277	268
Neb.	587	110	71	303	494	451
Nev.	67	10	15	34	55	57
N. H.	211	29	21	105	180	183
N. J.	631	116	80	227	523	526
N. M.	135	19	13	48	119	118
N. Y.	1,999	414	248	694	1,622	1,517
N. C.	584	94	35	194	453	471
N. D.	435	70	27	209	356	349
Ohio	2,085	444	256	776	1,663	1,522
Okla.	662	123	79	222	533	470
Ore.	449	64	65	158	362	361
Pa.	2,769	451	184	1,074	2,214	2,116
R. I.	140	41	18	35	105	98
S. C.	262	43	15	71	196	185
S. D.	407	59	48	207	353	328
Tenn.	455	114	21	110	338	338
Texas	1,192	130	87	469	987	934
Utah	197	21	28	67	161	159
Vt.	198	28	15	83	174	163
Va.	762	100	33	399	631	663
Wash.	732	127	114	242	608	560
W. Va.	482	90	23	220	402	370
Wis.	1,116	201	143	630	975	945
Wyo.	131	26	13	68	116	111
Unallocated	658	117	73	177	522	500
Total	34,022	6,089	3,785	13,100	27,703	25,983

Personal

Bill Young, head of the Goodyear aeronautical division, recently flew by airplane from Dayton, Ohio, to Washington, D. C., and returned the same day in order to close a business deal, thereby establishing a new speed record for long distance business dealing. Five days of traveling were condensed into one and four nights on pullmans were eliminated, as Young the same day flew from Dayton to Cleveland.

VULCANIZATION & ACCELERATORS

By Andre Dubosc

PART II (*CONTINUED*)

Natural and Mineral Accelerators

The Experiments of Twiss by which he Showed that Mu Sulphur can Effect Vulcanization with as Good Results as Lambda Sulphur but at a Lesser Speed—Work of Bernstein, Heilbronner, Spence and Young

THE writer has now explained the importance of the easy generation of the two gases, sulphuretted hydrogen and sulphurous acid within the mass of rubber, according to the principles of his theory regarding the vulcanization of rubber. He has shown the part that these gases play in the conversion of the raw rubber into a vulcanized product. Hence in the year 1914 which was before the advent of acceleration of vulcanization, the writer made some experiments with the idea of isolating a certain number of substances, which could act in the same fashion as resinous matter when the latter was absent in the rubber gum. In other words materials were sought for which could react with the sulphur so as to convert it into sulphuretted hydrogen.

To these substances he gave the name of vitalizers or sulphuretted hydrogen accelerators. Among the substances that were thought of, the author will mention alpha naphthlyamine, beta naphthol, camphor, naphthenic acid, aluminum naphthenate, ammonium sulphocynaide, etc.

In his study in the chemistry of the vulcanization process, Twiss has contested the potency of colloidal sulphur in the vulcanization of rubber and he has indicated that from the experiments that he has made on this subject, the form of sulphur known as insoluble amorphous, mu sulphur can effect the vulcanization of the raw rubber with just as good results but at a lesser speed than soluble amorphous sulphur or lambda sulphur.

Results Obtained by Twiss

The following results were obtained with mu and lambda sulphur according to Twiss.

Mixture	Duration of the heating at forty pounds pressure	Residual free sulphur
Rubber 100 parts Lambda sulphur 10 parts	120 minutes	8.39
Rubber 100 parts Mu sulphur 10 parts	120 minutes	8.81

Although the differences between the percentages of residual sulphur after vulcanization is very small, as can be seen from the above tabulation, Twiss concluded that the theory which the author has developed regarding the vulcanization of rubber is false.

In this respect Twiss has made a mistake.

The author has never advanced the theory that insoluble mu rubber of amorphous type, when prepared in advanced and incorporated with the rubber gum by the regular mixing or laminating process, possessed a greater potency than any other form of sulphur as far as the vulcanization of rubber was concerned. It was never said that this form of sulphur plays a role of exceptional activity in the vulcanization process.

What the author said was simply this, that the colloidal sulphur of Bubus, which was formed during the reaction that takes place between sulphuretted hydrogen and sulphur dioxide. This reaction results in the formation of sulphur in the colloidal condition during the course of the vulcanization and this sulphur is evenly distributed throughout the mass of rubber. This is the substance that is necessary for vulcanization of rubber according to the writers ideas.

Two Forms of Sulphur

Moreover the two forms of sulphur, which are known as mu sulphur and delta sulphur, are allotropic states of the element sulphur. These are very different from one another and the properties of these two types of sulphur are absolutely distinct.

Thus delta sulphur, far from being soluble like mu sulphur, dissolves even in water. Spring considers that the solution of this form of sulphur in water gives rise to the formation of a hydrate of sulphur. The methods for the preparations of this kind of sulphur and the properties of the same have been described in the literature. See *Comptes rendues*, 1891, volume 112, page 866, for the article by Engel, *Zeitschrift Ind. Kolloid*, 1908, volume 2, page 358, for the article by Riffo, *Zeitschrift Ind. Kolloid*, 1909, volume 4, for the article by Himmelbauer and *Journal russe de Ph, et Chem.* 1910, volume 42, page 307 for the article by Weimar. Lumiere has also written about this subject in the year 1915.

Furthermore when it also admitted that in the reaction which takes place between sulphur dioxide and sulphuretted hydrogen colloidal sulphur does not form only amorphous and insoluble mu sulphur, however the latter will be in the nascent condition, which is a very special state of the metalloid. It is that condition of the sulphur that determines the role that it plays in the vulcanization of rubber. This is the opinion of Bernstein and Heilbronner.

Work of Bernstein and Heilbronner

"Smith and Wiegand," say these two investigators, "have observed that sulphur, which is insoluble in any solvent whatsoever, will first be changed into colloidal sulphur and thereafter it will be precipitated. Now then when a solution of rubber gum to which a certain definite amount of sulphur has been added is exposed to the action of the ultra violet ray, precipitation of the sulphur is not observed. In fact the sulphur does not separate out even in an individual layer in the solution.

"However, inasmuch as a certain quantity of insoluble sulphur is formed under these conditions, according to the views held by Smith and Wiegand, it may be concluded therefrom that it is this variety of insoluble sulphur, due to the manner in which it was formed, which combines with the rubber molecule or permits itself to be absorbed by the rubber mass in the nascent state with the result that the rubber gum is vulcanized. The nascent state of the sulphur, that is of insoluble sulphur, seems to be a condition which if not indispensable for vulcanization, is at least productive of very good vulcanization results. For it was found that it was impossible to obtain effective vulcanization of the rubber when a solution of rubber, which contained very finely divided insoluble mu sulphur in

suspension, was subjected to the action of the ultra violet rays."

The preceding facts explain likewise the mechanism of the vulcanization process at elevated temperatures. In this case the process is carried out at a temperature at which a part of the sulphur that is used in the process is converted into insoluble colloidal mu sulphur but which is employed in the nascent condition.

These remarks are given in this place for the aid that they furnish us in establishing the role which is played by colloidal sulphur in the process of vulcanizing rubber, whether that sulphur exists in the soluble or insoluble. It has also assisted us in establishing the role that is played by the resinous constituents of the rubber gum in facilitating the reactions, which are known to take place in the mass of the rubber that is being vulcanized. It has also been shown that these resinous matters are uniformly distributed throughout the mass rubber.

Other tests which were carried out by Spence and Young show that under abnormal conditions of time and temperature the resinous matters do not suffer any discontinuance in their activity as preponderantly important factors in the vulcanization of rubber.

Spence and Young's Experiments

Spence and Young worked with samples of plantation rubber. Samples of this type of rubber were subjected to long extraction with acetone. The idea in mind was to remove all the resinous ingredients that were contained in the rubber mass. These de-resinified rubbers were then employed in preparing the following mixtures.

Mixture A consisted of ninety parts of this de-resinified rubber and ten parts of sulphur, while mixture B contained eighty parts of the de-resinified rubber, ten parts of the resinous matters that were obtained from the extraction of the self-same rubber and ten parts of sulphur.

These samples of rubber were then vulcanized in a thermostatically controlling heating oven. The duration of the vulcanization was very long, lasting up to ninety days. The temperatures used were various, as follows: 65 degrees C, 70 degrees C, 75 degrees C. After a ninety day duration of vulcanization at a temperature of 75 degrees C, the mixture A, which was constituted of rubber that was entirely free of resinous ingredients, did not contain any more than 0.32 percent of combined sulphur. These samples of rubber were accordingly not vulcanized in any sense of the word.

Mixture B, which contained ten percent of resinous ingredients which are extracted from rubber, yielded the following results:

	Fixed sulphur		Temperature		Temperature	
Time	Temperature	Percentage		% fixed S.		% fixed S
15 days	65	0.564	70	1.13	75	1.71
35 days	65	1.460	70	2.60	75	3.80
90 days	65	1.460	70	2.60	75	9.36

The effect of the resinous matters that are contained in the rubber gum on the vulcanization of the same is established in an indisputable fashion, for a rubber gum, which is entirely freed from its resinous ingredients, will not fix any more than 0.32 percent of sulphur after being subjected to a greatly prolonged vulcanization treatment at a temperature of 75 degrees C for a period of ninety days. On the other hand the same rubber gum, which contained ten percent of resinous substances, was able to fix 9.36 percent of sulphur when subjected to the same temperature conditions over an equal period of time.

Effect of Proteins

In studying the action of protein matters on the vulcanization of rubber mention has already been made of the work done and the results which have been obtained with various rubbers congulated according to the methods developed by Whitby, Eaton and Grantham, and particularly by Kerbosch.

These processes allow the separation from the latex, at the same time that rubber itself is removed, of the greatest part of these substances which are found in the latex in the state of an emulsion, a condition which refers particularly to the resinous ingredients.

Now, from the comparative tests which have been carried out with rubber gums coagulated in this fashion, that is by the ordinary method of adding acetic acid and then washing, on the one hand, and then on the other hand from the experiments which were made from the Kerbosch method of obtaining rubber gums by the evaporation of the latex, it has been found that the latter rubbers, which are rich in resinous and protein matters, vulcanize much more readily and with much better results than the rubber gums which have been washed or purified.

The same results were obtained as well, although in much less marked fashion, with the gums that were obtained according to the Eaton method and also with the rubbers obtained from plantation latex which was coagulated in accordance with the Brazilian method developed by Whity.

These facts explain in part the superior quality of the rubbers that are known as Brazil rubbers and hard fine para rubber. In the method of coagulating rubber latex in the above fashion, which is really the isolation of the gum and of the constituents that are contained in the rubber latex in their entirety by simple evaporation, the entire proportion of resinous and protein substances that are contained in the serum are retained in the rubber mixed in a very intimate manner with the rubber itself. This is due to the formation of thin layers of rubber through the evaporation of the latex. These substances act in the manner of natural accelerators of the vulcanization process.

Resins and Litharge

As a conclusion to the experiments that were made on the influence of resinous matters on the vulcanization of rubber, experiments which were carried out in collaboration with Clayton Beadle, Stevens published a very important investigation on the concommittant action of these resinous substances with litharge in combination with the sulphur that is contained in the rubber mixture. It is our belief that these investigations should be described here in detail.

Stevens says: "At the International Congress of Applied Chemistry, Beadle and I made a communication on the nature of the resinous matters that are contained in the rubber gum and on their influence on the vulcanizing process.

"We showed there that the extraction of the greater part of these resinous materials had for an immediate result the retardation of the velocity of the vulcanization process and the reduction of the mechanical resistance to tearing of the final vulcanized product. It was likewise shown that the rubber gum, which is deresinified in this manner, will be rapidly destroyed without it being possible to assign the cause of this wearing away of the vulcanized rubber to the effect of heat or the influence of solvents.

"At the same Congress another communication was made by Lothar Weber on the action of resinous matters in the vulcanizing process." The difference between the two studies is to be found most particularly in the composition of the various mixtures that were employed in the investigations.

While Beadle and Stevens worked with a mixture which contained only rubber and five per cent of sulphur, Weber used a mixture of industrial proportions, which contained in addition to rubber litharge, carbonate of lime and sulphur.

The conclusions that were obtained by Weber are well known. Moreover they are based on the physical properties of the vulcanized mixture. It is permissible to criticize these conclusions.

Rubber may have a very feeble resistance to rupture and moreover it may be easily vulcanized and even over-vulcanized. It is therefore necessary to subject it to chemical analysis in order to find out whether it contains combined sulphur or free sulphur which can be extracted with acetone.

"As far as this matter is concerned," says Stevens, "I have published a work in the year 1914 which dealt with the analysis of rubber. This article was published in the *Kolloid Zeitung*. In this article I showed that the coefficient of vulcanization was 2.71 in the case of a deresinified rubber, while the test gum sample containing resinous matter possessed a coefficient of vulcanization of 2.86 under exactly similar conditions. The difference between the two figures was simple from the standpoint of that particular characteristic of rubber. But on the contrary the sample of deresinified and vulcanized rubber deteriorated much more rapidly.

In the next installment M. Dubosc will tell of the observations of Weber.—The Editor.

EDITOR'S REVIEW DESK

Books **Trade Catalogs** **Articles**

RUBBER. 9" x 11½". Loose-leaf binder issued by the Crude Rubber & Foreign Produce Corp., 250 West 57th St., New York.

This is the fine folder that was formerly issued by F. R. Henderson & Co. and is now issued by the firm of which Mr. Henderson is president. It contains sheets giving the price of crude rubber at New York from 1921 to 1924, world production from 1907 to 1924, monthly exports of plantation rubber, 1924, cumulative imports, U.S.A., 1919 to 1924, per capita consumption of crude rubber, 1924, trend of rubber prices compared with trend of general commodity prices, U.S.A., 1913 to 1924 and many other interesting statistics. The binder permits the addition of current monthly charts which are issued by the company regularly.

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AMERICAN RUBBER INDUSTRY DEPENDENT UPON FOREIGN SUPPLY. By J. Walter Drake, Assistant Secretary of Commerce, U. S. Dept. of Commerce, in the *Dallas (Texas) News*, April 5.

Four-fifths of the rubber used in the United States today enters into the manufacture of tires. Each individual owner of an automobile requires an average output of one-eighth of an acre of rubber trees and automobile equipment during 1923 required crude rubber valued at $150,000,000. We use about 77 per cent of the world export of rubber, valued in 1923 at $240,000,000. These figures from such an authoritative source point to a very remarkable industrial situation. For we are dependent on foreign markets, Malaya, Ceylon and the Netherlands East Indies, entirely for our supply of this commodity, the only important one used in the manufacture of the automobile that we must obtain from places under foreign control.

The development of the automobile industry, with the parallel improvement in American roads and highways, was in large part due to rubber and with the motor car today so indispensable to the population of this country, it behooves the industry to look forward to the time when such a necessity as rubber is no longer manipulated by foreign growers and governments.

Great Britain controls 75 per cent of the crude rubber industry, Holland holds almost the balance, including political regulation over British owned estates in her colonies. During 1922, when Great Britain through the Stevenson Restriction Act sought to save an over-stocked market from disaster, the above facts were brought to the attention of the American business man, who for the first time realized that foreign countries were about to dictate prices and control production, with the greatest user of rubber powerless to do ought but submit.

The results of the Congressional investigation that followed are not fully known, but enough has been published to assure those interested that the leading men of this country are giving their attention to the problem of our future supply of crude rubber.

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ACETONE. Its Properties and Uses. By R. F. Remler. 6 x 9", 26 pp. Issued by the National Wood Chemical Association, Bradford, Pa.

The place of acetone among organic compounds is an important one. Used alone or in combination with other solvents its field of application is wide. Its properties a matter of theory for many years prior to the discoveries of Boerhaave in 1732, it was not until the investigations of Williamson, Liebig and Dumas that the true composition of acetone was determined.

The history, manufacture, properties and uses of acetone are given in the first five pages of this booklet, followed by eleven tables of solvent data with explanation.

Acetone is not a rubber solvent, its use in the rubber industry being in the extraction of resins from crude rubber and as a precipitant for reclaiming rubber. In the latter case, the coagulating effect produced by acetone is no doubt due to its power to dissolve protective colloids and thus allow the globules to coalesce.

Two pages are devoted to a list of the literature covering the subject of acetone and in appendices the United States Government specifications for acetone are given.

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GASOLINE. By T. A. Boyd. Published by Frederick A. Stokes Co., New York.

With seventeen million automobiles crowding the highways and streets of the United States, dependent for their power upon gasoline, it seems hardly possible that this fuel was considered thirty years ago a drug on the market, thrown into rivers, or disposed of for a fraction of a cent a thousand gallons. But of this, and much more that would seem to our generation mythological, the author of this book assures us.

Nearly nine billion gallons were refined during 1924 and, with the increased use of the automobile, Mr. Boyd glances into the future, to the day that must inevitably come, when the supply of gasoline is dry. But he finds no cause for alarm. Inventive genius, he thinks, has always solved the timely problems, and by alcohol or some as yet undiscovered chemical he sees the motor car of the future propelled.

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THE MARKET PLACE Section Continued on Second Page Following.

MARKETS

Cottons and Fabrics

NEW YORK, May 1, 1925

Two weeks ago the principal market factors were the weather situation and the long liquidation of the near position in anticipation of heavy deliveries being made on May contracts. Conditions throughout the belt, with the exception of Texas, were generally favorable. Fertilizer sales were considerably in excess of those at the same time last year and, in the majority of States, excellent progress was being made with planting.

The Census Bureau's monthly report on consumption showed that domestic mills had used 582,674 bales, exclusive of linters, as against the average for the past five years of 529,000 bales. Taken in conjunction with the continued reports of the slow movement of finished goods, these figures tend to strengthen the belief held by some that sales are not keeping pace with production.

Southern spot transactions were light and, although a fair export business continues to be done, this is said to be confined almost entirely to the fulfilment of old contracts. Signs are not lacking that a number of Continental importers have stocks in excess of prospective requirements and are endeavoring to move them at prices considerably below replacement costs in the South.

There has been no pronounced increase of bullish activity in the past two weeks. This can be accounted for neither by reference to the statistical position, which continues to indicate the possibility of a very small carry-over, nor by the reports received from Southern spot markets where there is a steady demand for premium staple cotton and a scarcity of offerings. The failure of the protracted drouth to have more than sustaining effect on values is probably due to the fact that several weeks must elapse before all hope of Texas making a satisfactory crop may be definitely abandoned. In the event of the dry area being relieved by heavy rains in the near future, there would be a sharp break in prices, for the outlook in the other cotton growing states has seldom at this time been more favorable.

New York Cotton Prices

	Open	High	Low	Last Sale April 15	Close
May	24.03	24.23	23.99	24.16	24.39
July	24.13	24.36	24.13	24.22	24.79
October	23.74	24.04	23.73	23.92	24.64
December	23.95	24.24	23.93	24.10	24.75
January	23.63	23.92	23.63	23.82	24.45

TIRE FABRICS

The situation has perceptibly improved for the mills producing cord fabric. The large potential overproduction which was the hindering factor in the price situation has been greatly relieved by the industry turning to square woven. It is considered only a matter of a few years when fabric tires will be obsolete. The growing interest in Egyptian fabric has stimulated the maintenance of prices on a basis around 68 cents for the carded upper variety. There is little assurance among fabric producers that current standard qualities will be long maintained. Continued change is now the order of experimental work.

CORD FABRICS

Combed Sakellarides		Nominal		
Combed Peeler	lb.	Nominal		
Carded Peeler		.51	@	.53
Combed Egyptian uppers	lb.	.70	@	.76
Carded Egyptian uppers	lb.	.64	@	.67

SQUARE WOVEN

17¼-ounce Egyptian uppers, combed	lb.	Nominal		
17¼-ounce Egyptian uppers, carded	lb.	.62	@	.65
17¼-ounce Sakellarides, combed	lb.	Nominal		
17¼-ounce Peeler, carded	lb.	.49	@	.51

Ducks—Business done during the last two weeks was confined to small orders. Buyers do not seem disposed to provide very far ahead for their requirements. The increased availability of square woven tire fabric machinery is expected to add to competition in numbered duck. Mills are disposed to negotiate with buyers to the latter's advantage if they can see their way clear to preparing for later requirements, being at the point where they will name atractive quotations to effect sales and keep their machinery running. Prices are merely nominal, with the size of the order and the availability of the goods the deciding factor.

Burlaps—The burlap market has been quiet during the past fortnight. There was a little tendency to peg prices a trifle higher under the influences of advances in primary quotations. In some cases concessions have been offered. An occasional easier spot and afloat price was named by an operator but the basis held very steady in the market as a whole. Shipment interest was of a very limited demand because buyers found no incentive to contract ahead, with no price advantage in their favor.

SHEETINGS

40-inch 2.50-yard	yd.	.16	@	—
40-inch 2.85-yard	yd.	.13⅞	@	.14
40-inch 3.15-yard	yd.	.14	@	—
40-inch 3.60-yard	yd.	.11¾	@	—
40-inch 3.75-yard	yd.	.10½	@	—
40-inch 3.75-yard	yd.	.10¾	@	.10⅞
40-inch 4.25-yard	yd.	.09¾	@	—

DUCKS

Belting	lb.	.44½	@	.46
Hose	lb.	.44½	@	.46
Enameling	lb.	.44	@	.51
Shoe Ducks	lb.	.40	@	—
Single filling	lb.	.19½	@	.21½
Double filling	lb.	.23	@	.24

BURLAPS
(Carload Lots)

7½-ounce 40-inch		7.45	@	—
8 -ounce 40-inch		7.60	@	7.65
10 -ounce 40-inch		9.50	@	—
10½-ounce 40-inch		9.60	@	—

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The Akron Equipment Co.
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FABRIC BROKER—Spots and Contracts: Tire fabrics, Enameling ducks, Tube Wrapping Tapes.

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RECLAIMED RUBBER—for all purposes.

Rubber Regenerating Co.
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THE MARKET PLACE Section Continued on Second Page Following.

Reclaimed Rubber

NEW YORK, May 1, 1925

Reclaimers are all continuing high production schedules to keep up with the demand from tire and rubber manufacturers. Prices are very close and there is a likelihood of increased prices. Scrap dealers are not inclined to release stocks at present prices, a condition which further points to higher prices for reclaims.

Friction (Uncured)				
No. 1	lb.	.34	@	.36
No. 2	lb.	.22	@	.23
High Tensile Black				
Super-Reclaim No. 1	lb.	.17	@	.17¼
" " No. 2	lb.	.12¼	@	.12½
Shoe				
Unwashed	lb.	.09	@	.09¼
Washed	lb.	.12¼	@	.12½
Tube				
No. 1 (Floating)	lb.	.14¾	@	.15
No. 2 (Compounded)	lb.	.10½	@	.11
Tires				
Black, unwashed	lb.	.08½	@	.08¾
Black, washed	lb.	.10	@	.10¼
Dark Gray	lb.	.09½	@	.09¾
Light Gray	lb.	.11	@	.11¼
White	lb.	.14½	@	.14¾
Truck	lb.	.08½	@	.08¾
Miscellaneous				
Mechanical Blends	lb.	.05	@	.06
Red, High Grade	lb.	.13½	@	.13¾

Scrap Rubber

NEW YORK, May 1, 1925

Conditions in the scrap rubber market are stagnant. There is very little trading at the present time and dealers are not inclined to let stocks go in view of the continued advance in crude. Better prices are looked for and dealers are holding out in anticipation of increased demand for scrap a little later on.

Auto tire peelings	.00¾	@	00⅞
Standard White auto ton	18.00	@	20.00
Mixed auto ton	14.00	@	15.00
Bicycle tires tons	8.00	@	10.00
Clean solid truck tires	22.00	@	24.00
Boots and shoes	.01½	@	.01⅝
Arctics, untrimmed	.00¾	@	.00⅞
Arctics, trimmed	.01⅛	@	.01¼
Inner tubes, No. 1	.04½	@	.04¾
Inner tubes, compounded	.02¾	@	.02⅞
Inner tubes, red	.02	@	.02⅛
Battery jars, clean hard rubber	.01	@	.01⅛
Air Brake Hose ton	13.00	@	—
Rubber hose ton	8.00	@	—

Crude Rubber

NEW YORK, May 1, 1925

During the past two weeks the scarcity of rubber in nearby positions was responsible for the erratic tendency of the market. Even moderate inquiry accompanied by an evident inclination to buy sent prices forward sharply. That they fell so quickly when buyers withdrew was apparently due to the fact that sellers were still afraid of current levels and none too confident in the London position despite the very limited stocks in that center. There were offers of distant positions in good volume but very little trading in them was done except for covering on the part of the large factories.

During some sessions it was almost impossible to sell rubber in any position. Prices held only through the influence of London and dogged maintenance on the part of holders. A downward reaction was anticipated but few ventured an opinion as to when it would start or how far it would carry the market before checked by purchasing. The market was a very hard one to work. Neither buyers nor sellers were interested to the point where they were willing to concede a fraction to do business. Bids ranged from ¼ to ½ cent below current figures and no amount of argument prevailed to bring buyers up an eighth or sellers down a similar fraction.

The increase in tire prices announced by a number of manufacturers sent the market up sharply on the 29th. But no more actual business was in evidence during the day than had been the rule and neither buyers nor sellers seemed anxious to take a position. At the same time nobody was surprised at the higher levels which brought the market to 45⅝ sellers for spot ribs at the close. Buyers of spot were ¼ cent below this level. More distant positions developed a larger differential between buyers and sellers and from ½ to ¾ cents on July-September and October-December was the rule.

In some quarters the dullness of both New York and London and the generally easier trend was believed to be due to the restriction situation. However, although no definite announcement was forthcoming, it was so well established that a further 10 per cent release would be authorized under the Stevenson plan that it was hardly likely that this could have any effect on the market. The spot price undoubtedly looked high to buyers and this was probably the reason for the general lack of buying or even bidding interest. Government reports showed imports of 33,111 long tons of crude and liquid latex during March, as against 20,370 long tons a year ago. For the three months ended March 31, imports were 90,709 tons this year, compared with 74,154 in 1924.

NEW YORK MARKET

Plantations—			
Ribbed Smoked Sheets			
Spot	.45	@	.45¼
May	.44⅝	@	.45⅛
June	.43⅝	@	.44
July	.43⅝	@	.44
July-Sept.	.43⅝	@	.44
Oct.-Dec.	.42¼	@	.42½
First Latex, crepe spot	.45⅝	@	.45⅞
Amber Crepe, No. 1, spot	.44½	@	—
" " No. 2,	.44½	@	—
" " No. 3,	.44¼	@	—
Brown Crepe, Rolled	.43½	@	—
" " Clean, thin.	.44½	@	—
" " Specky	.43¾	@	—
Scrap, Colombo No. 1	Nominal		
Pontianac—			
Bangermassin	Nominal		
Palembang	Nominal		
Prime Pressed	Nominal		
Sarawak	Nominal		
Paras—			
Up-river Fine	.36	@	—
" Medium	.36	@	—
" Coarse	.28	@	—
Islands, fine	.33	@	—
Madeira Fine	.38	@	—
Acre Bolivian, fine	.37¾	@	—
Tapajos, fine	.33½	@	—
Cut Beni Bolivian, fine	Nominal		
Caucho Ball—			
Upper, shipment	.31½	@	—
Centrals—			
Central, scrap, prime	.28	@	—
Corinto, scrap	.29	@	—
Esmeraldo, sausage	.29	@	—
Guayule, w and d	.35	@	—
Africans—			
Benguela, No. 2	Nominal		
Congo, upper, black	Nominal		
" " red	Nominal		
Kassai, Prime Red	Nominal		
Balata—			
Block, Columbia	.65	@	—
" Cuidad	.65	@	—
Surinam, sheet	.85	@	—
Gutta Percha—			
Siak	.17	@	.18
Red Macassar	3.00	@	3.20
Chicle—			
Mexican, Yucatan	.65	@	—

LONDON MARKET

Standard Ribbed Smoked Sheets—	
Spot	21⅛d
May	21¼
June	21¼
July-September	20¼
Oct.-December	19⅝

SINGAPORE MARKET

Standard Ribbed Smoked Sheets—	
Spot	20¾d
May-June	20½
July-Sept.	19¼
Oct.-Dec.	18½

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CHEMICALS & COMPOUNDING INGREDIENTS

Accelerators — Colors — M.R. — Compounding Ingredients
Softeners — Vulcanizing Ingredients — Rubber Substitutes

NEW YORK, May 1, 1925—The outstanding feature of the chemical market during the past fortnight has been the decrease in D.P.G. to 95 @ 98 cents—a move explained by better manufacturing products. Another feature was the strengthening of carbon black prices as a result of the disappearance of distress lots at low prices. Quotations are now firmer and with decreased production resulting from the restrictions recently enforced, the trade expects blacks to sell at a price permitting of profits.

ACCELERATORS

Organic			
Aldehyde ammonia, crystals	lb.	$ .93 @	.95
Aniline oil, drums	lb.	.17 @	.17½
Di-Ortho-Tolylguanidine	lb.	1.26 @	—
Diphenylguanidine	lb.	.95 @	.98
Excellerex	lb.	.40 @	.45
Formaldehyde-Aniline	lb.	.40 @	.45
Hexamethylene-tetramine	lb.	.82½ @	—
Paraphenylenediamine	lb.	1.25 @	1.40
Piperidine-Piperidyldithio-Carbamate	lb.	5.00 @	—
Super-Sulphur No. 1	lb.	.50 @	—
Super-Sulphur No. 2	lb.	.18 @	.30
Tensilac, No. 39	lb.	.80 @	—
No. 40	lb.	.75 @	—
Tuads	lb.	5.00 @	—
Thiocarbanilide, kegs	lb.	.26 @	.30
Triphenylguanidine	lb.	.75 @	—
Vulcone	lb.	.89 @	—
Zimate	lb.	5.00 @	—
Inorganic			
Lead, sublimed blue	lb.	.10 @	.11
Lead, white	lb.	.10¼ @	.11
Litharge, domestic	lb.	.11½ @	.12½
Lime, superfine	lb.	.01½ @	.02
Magnesia, calcined, light	lb.	.24 @	.25
extra light	lb.	.40 @	.45
heavy	lb.	.03½ @	.06

COLORS

Blacks			
Arrow "Aerfloted"	lb.	.07 @	.11
Bone Black	lb.	.05½ @	.09
Carbon "	lb.	.07 @	.11
Drop "	lb.	.06 @	.14
Ivory "	lb.	.12 @	.45
Lamp "	lb.	.12 @	.40
Micronex	lb.	.08 @	.12
Thermatomic carbon	lb.	.04 @	.08
Blues			
Cobalt	lb.	.21 @	.26
Prussian	lb.	.35 @	.37
Ultramarine	lb.	.08 @	.35
Browns			
Iron oxide	lb.	.02¼ @	.06¼
Sienna, Italian	lb.	.04 @	.14
Umber, Turkey	lb.	.04 @	.06
Vandyke, domestic	lb.	.03 @	.03½
Greens			
Chrome, light	lb.	.27 @	.29
medium	lb.	.29 @	.30
dark	lb.	.31 @	.34
commercial	lb.	.10 @	.10½
Chromium Oxide. (in bbl.)	lb.	.34 @	—
Reds			
Antimony crimson, 15/17 F.S.	lb.	.43 @	.45
sulphur free	lb.	.45 @	.50
golden, 15/17 F.S.	lb.	.19 @	.22
pentasulphide, pure,	lb.	.35 @	.38
15/17 F.S.	lb.	.33 @	.36
red sulph.15-17F.S.	lb.	.16 @	.20
Indian English	lb.	.08 @	.10
Oximony	lb.	.13½ @	—
Para toner	lb.	.90 @	1.00
commercial	lb.	.14 @	.15
Red oxide, reduced	lb.	.04 @	.12
pure	lb.	.12 @	.14
Toluidine toner	lb.	1.80 @	2.05
Venetian red	lb.	.01½ @	.05
Vermillion, quicksilver, English	lb.	1.40 @	1.50
domestic	lb.	.15 @	.25
Whites			
Albalith	lb.	.06⅝ @	.06⅝
Aluminum bronze		.60 @	1.25
Lithopone, Akcolith	lb.	.06¼ @	.06¾
Lithopone Azolith	lb.	.06⅛ @	.06⅝
Zinc Oxide—American Process XX red	lb.	.07¾ @	.08¼
Kadox, black label, bags, cars		.10⅝ @	.11⅛
blue " " "		.09⅝ @	.10⅛
red " " "		.08⅝ @	.09⅛
American Azo: ZZZ (lead free)	lb.	.07¾ @	.08¼
ZZ (under 5% leaded)	lb.	.07 @	.07½
Z (8-10% leaded)	lb.	.06¾ @	.07¼
Zinc Oxide—French Process White seal	lb.	.12 @	—
Green seal	lb.	.10¾ @	—
Red seal	lb.	.09¾ @	—
Yellows			
Chrome, light		.18½ @	.19
dark and medium	lb.	.18½ @	.19
Cadmium Sulphide	lb.	2.00 @	2.50
Ocher, French medium	lb.	.02¼ @	.02½
domestic	lb.	.01½ @	.02½

COMPOUNDING INGREDIENTS

Aluminum Flake	ton	21.85 @	24.50
hydrate light	lb.	.17 @	.18
Ammonia carbonate	lb.	.13½ @	.14½
Asbestine	ton	18.00 @	20.00
Barium carbonate	ton	54.00 @	56.00
Barium Dust	lb.	.05 @	.06
Barytes southern off-color,	ton	12.00 @	18.00
Western prime white	ton	22.00 @	23.00
imported	ton	28.00 @	35.00
Basofor	lb.	.04½ @	—
Blanc fixe, dry f.o.b. works	lb.	.04 @	.04¼
Carrara filler	lb.	.01¾ @	.02
Chalk, precipitated, extra light	lb.	.04¼ @	.05
heavy	lb.	.03¼ @	.04
Clay, China, domestic	ton	15.00 @	25.00
Dixie	ton	20.00 @	35.00
Blue Ridge, Dark	ton	9.00 @	—
" " Light	ton	12.00 @	—
Langford	ton	12.00 @	22.00
Glues, extra white	lb.	.21 @	.29
medium white	lb.	.19 @	.25
cabinet	lb.	.16 @	.25
cabinet low grade	lb.	.15 @	.18
common bone	lb.	.11 @	.14
Graphite flake, bbls.	lb.	.06½ @	.12
Lump	lb.	.04 @	.07
Infusorial earth, powdered	ton	23.00 @	25.00
bolted	ton	20.00 @	—
Liquid latex	gal.	1.75 @	2.00
Magnesia, carbonate	lb.	.08¼ @	.09
Mica, powdered	ton	65.00 @	80.00
Rotton Stone (powdered)	lb.	.02½ @	.04½
Soapstone, powdered	ton	15.00 @	22.00
Starch, powdered	cwt.	4.07 @	4.55
Talc, domestic	ton	16.00 @	18.00
French	ton	18.00 @	22.00
French, high grade	ton	38.00 @	45.00
Italian	ton	45.00 @	55.00
Terra Alba	cwt.	1.25 @	2.00
Tripoli, white	lb.	.02 @	.02¼
Whiting, commercial	cwt.	1.00 @	1.15
gilder's bolted	cwt.	1.25 @	1.35
English cliffstone	cwt.	1.50 @	3.00
Paris white American	cwt.	1.25 @	1.50
Quaker	ton	13.00 @	15.00
Sussex	ton	8.00 @	10.00
Wood pulp XXX	ton	35.00 @	—
" " X	ton	25.00 @	—

MINERAL RUBBER

Genasco (factory)	ton	50.00 @	52.00
Granulated M.R.	ton	35.00 @	45.00
Hydrocarbon, Hard	ton	29.00 @	35.00
Hydrocarbon, Soft	ton	29.00 @	35.00
320/340 M.P. hydrocarbon (c. l. factory)	ton	47.00 @	52.00
300/310 M.P. hydrocarbon (c. l. factory)	ton	42.00 @	47.00
Synpro, granulated. M.R. (factory)	ton	55.00 @	70.00

SOFTENERS

Acids			
Acetic, 28%	cwt.	3.12 @	3.37
Cresylic, 97%	gal.	.62 @	.64
95%		.58 @	.60
Muriatic, 20%	cwt.	.90 @	1.00
Nitric, 36 degrees	cwt.	4.25 @	4.50
Sulphuric, 60 degrees	ton	9.50 @	10.50
66 degrees	ton	14.00 @	15.00
Tartaric, crystals	lb.	.29 @	—
Alkalies			
Caustic soda, 76%	cwt.	3.20 @	3.50
Soda ash, 58% C.L.	cwt.	1.43 @	1.45½
Oils			
Castor, No. 3, bbls.	lb.	.16½ @	—
Chinawood, bbls.	lb.	.13 @	—
Corn, crude, bbls.	lb.	.12 @	—
refined	lb.	.13 @	—
Cottonseed, crude		.10 @	—
Glycerine C.P. drums	lb.	.19 @	.19½
Linseed, RawC.L.bbl.	gal.	1.04 @	—
Palm, Niger	lb.	.08⅞ @	—
Lagos	lb.	.09¼ @	—
Peanut,domestic,crude	lb.	.13 @	—
Petrolatum, white		.12½ @	.13
amber		.03¾ @	.04
dark amber	lb.	.03⅝ @	.03¾
Pine, steam distilled	lb.	.65 @	.66
Rapeseed, refined	gal.	.98 @	—
blown	gal.	1.05 @	—
Rosin, first rectified	gal.	.51 @	.52
second rectified	gal.	.53 @	.54
Soya Bean, crude		.13¼ @	.13½
Tar, commercial	gal.	.30 @	.32
Resins and Pitches			
Parra M.R.	lb.	.06 @	.07
Tar Retort	bbl.	13.50 @	14.50
kiln burned	bbl.	13.50 @	15.50
Pitch, Burgundy	lb.	.05 @	.06½
coal tar	gal.	.05½ @	.06
pine	bbl.	6.00 @	6.50
Rosin, grade K	bbl.	9.30 @	—
Shellac, Superfine, orange	lb.	.63 @	.67
Solvents			
Alcohol, denatured, No. 1 bbls.	gal.	.57½ @	.61½
Benzol, 90%	gal.	.22 @	—
pure		.24 @	.28
Carbon bisulphide	lb.	.06 @	.07
tetrachloride	lb.	.06¾ @	.07
Dimethylaniline	lb.	.33 @	.36
Motor gasoline, steel bbls.	gal.	.20 @	—
Naptha, V. M. & P.	gal.	.20½ @	—
Toluene	gal.	.26 @	—
Turpentine, spirits	gal.	.94 @	.95
wood	gal.	.83 @	.85
Waxes			
Bayberry	lb.	.21 @	.22
Beeswax	lb.	.55 @	.65
Carnauba, No. 1	lb.	.35 @	.37
Ceresin, white	lb.	.10 @	.11
Montan, crude	lb.	.06 @	.06½
Ozokerite, black	lb.	.24 @	.25
green	lb.	.26 @	.30
ParaffineWhite,A.M.P.	lb.	.04⅞ @	.05
Yellow A.M.P.	lb.	.05⅛ @	.05¼
Sweet wax	lb.	.12 @	—

SUBSTITUTES

Black		.08 @	.14
White	lb.	.09 @	.16
Brown	lb.	.10 @	.14
Brown factice	lb.	.09 @	.18
White factice	lb.	.09 @	.16

VULCANIZING INGREDIENTS

Black hyposulphite	lb.	.18 @	.20
Ethyl Chloride, Cyl.	lb.	.55 @	—
" " Drums	lb.	.45 @	—
Sulphur Chloride (drums)	lb.	.04½ @	.06
Sulphur flour Commercial bags	cwt.	1.35 @	1.70
" " bbls.	cwt.	1.70 @	—
Superfine, bags	cwt.	2.20 @	2.50
" " bbls.	cwt.	2.60 @	2.90
100% pure, refined, bags	cwt.	2.35 @	2.65
bbls.	cwt.	2.60 @	2.90

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ABSTRACTS

Rubber from Concentrated Latex

It has been found rubber latex can be separated into two layers, one containing a large and the other a small proportion of rubber by the addition of a small proportion of vegetable or animal colloid materials such as Caragheen moss, Iceland moss or gelatine. Coagulation of the latex does not occur and the separation into layers may be made more rapid by raising the temperature. Other colloidal substances such as gelatized mucilage, glue, gelatine jelly, and the like may also be used.

The process may also be used to obtain rubber from the latex. The latter, which may be concentrated as above, is brought on to the surface of a concentrated aqueous colloid, and a layer of rubber is obtained on the surface of the colloid. The colloid may be mixed with glycerine, molasses, or other substances adapted to withdraw water from the latex.

For example, one hundred liters of latex are treated with the extract that is made by heating 140 grams of Caragheen moss with 14 liters of water. The mixture is heated to a temperature of 50 to 60 degrees C and allowed to stand when it separates into two layers, the upper of which contains practically all of the rubber. This concentrated latex may be mixed with a filler, such as chalk, and the mixture dried by application to a surface as described, and subsequently vulcanized. English Patent No. 226,440.

Spotted Crepe Rubber

Several molds can be isolated from the discolored areas of "spotted" crepe rubber and can be made to induce the "disease" in unaffected rubber. One Penicillium from yellow and rusty spots produced a blue green coloration in media that were rich in sugar, a violet coloration in potato agar, and a pink coloration in potato-mush agar. Another Penicillium yielded a diffuse yellow coloration on a wide variety of media. A fusarium produced violet spots in media, and rubber could be inoculated with the pure culture. The fungus which is responsible for the black spots occasionally observed appears to be unable to survive the conditions of the drying sheds. There are probably many other molds that are capable of producing effects which are similar to those of the foregoing. The fungi can be seen in clean rubber and isolated, the occurrence or not of color probably depending on the extent of growth before the rubber is washed on the plantation. *Bull. Rubber Growers' Assoc.*, volume 6, pages 682-8.

Vulcanized Rubber Masses

Rubber latex, which has been mixed with sulphur or other vulcanizing agents, as for example the polysulphide of sodium, and to which there has also been added in certain cases a definite amount of water and some colloid substance, is then vulcanized. The aqueous solution or colloidal suspension, that is obtained in this manner, and that is not coagulated at all or only to a very unimportant degree is then mixed, if it is desired, with a coagulating agent or is evaporated to dryness. It is also possible to add either inorganic or organic bases to the rubber latex before it is put through this treatment.

Rubber Rosin Paint

Paints for coating submerged objects are prepared by liquifying rubber in an autoclave at a temperature of approximately 160 degrees C and adding rosin, talc and sulphur with continuous stirring. The mixture is cooled to a temperature of 20 degrees C or thereabout and turpentine is added. Preferred proportions are sixty per cent of rubber, six per cent of rosin, three per cent of talc, one per cent of sulphur and thirty per cent of turpentine. The paint is applied in the warm state, at a temperature of 50 degrees C, by means of a brush. British Patent No. 200,430.